Gleanings in Bee Culture

VOL. XLI. NOV. 15, 1913, NO. 22.

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Gleanings in Bee Culture

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Editorial

The editor of this journal expects to attend the convention of the Ontario Beekeepers' Association, at Toronto, on Nov. 18, 19, and 20. See program in convention column. He also hopes to attend the New York State convention, Dec. 2 and 3, at Rochester; and, later on, the Iowa State meeting, Dec. 10, 11, and 12, at Des Moines.

DEATH OF I. R. GOOD, THE INTRODUCER OF THE GOOD CANDY FOR MAILING QUEEN-BEES.

Some twenty-five or thirty years ago Mr. I. R. Good was more or less of a contributor to these columns. During this time he, like A. I. Root, was experimenting with new things. While A. I. R. was fussing with water-bottles so that queens could be sent by mail in connection with hard candy, I. R. Good was working in another direction—namely, that of making a soft moist candy which would not require the use of water; and it was so much of a success that it has been used clear up to the present time, and we may never find any thing any better. A. I. R. immediately dropped the hard-candy proposition and adopted the Good candy in his queen-cages. So successful was he with it that he became very enthusiastic about it at the time. Other queen-breeders adopted it until its use became almost universal; for Mr. Good was Good enough to give this valuable idea to the beekeeping world; and now that he has passed away we are in duty bound to recognize his contribution to the onward progress of bee culture in this country. It is proper to say, however, that Mr. Good was not, perhaps, the original discoverer of the method for making soft candy for bees. One Scholtz, of Europe, seems to have had a little priority; but Mr. Good should have the credit of introducing the candy into the United States. Mr. Scholtz, if he *was* the original discoverer, probably did not know the value of his discovery, while Mr. Good did, and immediately made it available to the beekeeping public of the United States. In so doing he conferred a great favor on his brother-beekeepers.

Mr. Good thought enough of his friend A. I. Root and Gleanings to name his son Amos I. Mr. Good adds that his father "fell asleep in Jesus" on Sunday morning, Oct. 5 last.

OUR CARLOAD OF BEES ON THE WAY TO FLORIDA.

Before this reaches our readers we shall have a carload of three hundred colonies on the way to Florida. One of our most experienced men will go with them, and we are going to try out the proposition of making the bees stay on the job ten months in the year instead of only five. Every Northern beekeeper knows that his capital—his bees, hives, and appliances—have to be idle in winter quarters anywhere from six to seven months in the year. This is not all. He will lose some, and all the colonies will dwindle in strength by next spring. It takes a lot of stores to build them up again. We are going to see if we can not cut down this idle time to one or two months, and make increase instead of a decrease.

We have changed our plan somewhat since our announcement in the last issue. Instead of building up the 300 to 300 *two*-story colonies for the production of extracted honey, and then splitting them up into 600 *one*-story colonies after the honey-flow, we are going to run them for increase, making the production of extracted honey secondary; that is to say, we shall extract just enough to give the queens room. We shall begin dividing in the midst of ti-ti; and when nectar from natural sources fails we shall keep up feeding.

Our apiarist, Mr. Ernest Marchant, was born and reared in that locality where he is going to take the bees. He was for years under the tutelage of his father, who is acknowledged to be one of the best beemasters in the United States. A stranger could hardly go into that region and make a success of a venture of this kind. In fact, the same thing might be said of almost any locality with which a beeman is not familiar.

Mr. A. B. Marchant will operate further up the river; and after his honey crop has been secured, he will possibly be able to

furnish bees by the carload to Northern buyers. We bought two carloads of bees of him two years ago, and made a good thing of it, and there is no reason why others may not do the same.

OUR WATERWORKS APIARY; THOSE SWARMING CARNIOLANS; THE ASPINWALL NON-SWARMING HIVE.

THE front cover design for this issue shows our waterworks yard, located about 2½ miles northeast of the home apiary. In the background will be seen the Medina waterworks pumping station, and just in front of it one of our portable takedownable apiary sheds, one of which we use at each out-yard.

It was at this yard that we have been rearing Carniolans for the last two years, and where we had such incessant swarming in spite of all that we could do. The bees originally were run for individual comb-honey service, using shallow frames with foundation starters, top and bottom, as explained elsewhere in this issue. Of course this would have a tendency to incite swarming, and we were finally compelled to use drawn combs and extract.

In the middle of the back row will be seen a hive that is a little different from the rest. This is an Aspinwall non-swarming hive. Into this we put one of the strong Carniolan colonies that had been swarming so much. We naturally expected they would do it again, but they did not. No, they went right on storing comb honey, and did not swarm the rest of the season; and although the season was half over they filled some 70 odd sections with nice comb honey. Later in the season the slatted dividers became filled up with burr-combs. These we will show at another time.

It will be noticed that the two trees in the rear of the back row have the tops cut off. The reason for this will be better understood when we say that the Carniolan swarms had an exasperating fashion of going to the tops of those trees, some fifty or sixty feet high. Ye editor got so disgusted shinning up those trees that he finally secured permission to cut the tops off, with the result here shown.

The low shrubbery along the side of the road was also a favorite place for swarms. From there it was much easier to hive them; but in many cases they seemed to take a particular delight in settling on one of the posts of the wire fence where it was a slow and tedious operation to get them.

This is a good location because it is along the river; and during a period of drouth this yard will yield honey when the others may give only a scant supply. Down in the flat, just back of the pumping-station, a good growth of sweet clover will be found, a picture of which we showed on the cover of our issue for Aug. 15th.

This yard, as will be seen, like all the rest of them, is located on one of our stone roads, so that at all times of the year or at any time of the day they can be easily reached by our motor truck, which will be seen in the background, just in front of one of the trees. This has been doing splendid service in reaching our yards during the past season. It not only carried men to and from the yards, but enabled us to have a central extracting plant at the home yard. It has brought home 20,000 lbs. of honey since the honey season was over, and it has been used almost daily to carry honey to Cleveland, where it is on sale at some of the principal groceries and drugstores.

GLEANINGS FOR 1914.

As announced on another page, we are planning another series of special numbers for 1914. The large number of post-card votes which we received from our readers indicated conclusively that the special-number feature is appreciated. The vote as it stands is practically unanimous.

We received many helpful suggestions for the future, which we hope may be the means of making the special numbers more valuable than ever. We wish that we might take up in one year all of the subjects that were suggested; but this would be impossible. We wish to take this occasion, however, to thank all of those who responded so promptly with their post-card votes, and who gave such practical suggestions. These ideas we shall bear in mind; and if it is the desire of our readers to have the plan continued for 1915 we will try to utilize more of the subjects mentioned at that time.

We believe our scheme for 1914 represents the wishes of the majority. Several of the numbers we should like to mention especially at this time. Much new material has developed along the line of the value of bees in orchards, and the fruit-men are awaking to the fact to such an extent that we believe the time will come very soon when beekeepers living in fruit districts need pay no rent for out-apiaries. It is our aim to have all of this new evidence, some of which is exceedingly valuable, brought together in one issue so that the beekeeper may have an opportunity of presenting the facts in concrete form to the fruit-grower.

There is always a call for material, especially for beginners. In our March 1st issue, "Beekeeping in Cities," we shall use considerable matter of interest especially to

beginners; for, although many beekeepers in cities are entirely out of the beginner class, there are enough others, just starting, to make the demand for elementary advice insistent.

In our April 1st issue we propose to get together the best material on "Breeding" that has ever been given to the public. It certainly is true that we know too little about selection of breeders and about breeding in general. There have been repeated calls for a special number on breeding, and at last we are able to arrange for such a number.

For our first number, January 1, we solicit interesting and practical articles from the poultry-raisers among our readers who have something worth while to make public. We are going to pay an extra price, as usual, for all material used in our special numbers, and this has reference as well, of course, to the material from our beekeepers who are also poultry-raisers. In this connection, however, we wish to say that all material intended for this Jan. 1st issue should be in our hands by Dec. 5. We shall be able to use some good clear pictures; but if possible we should like them by Dec. 1.

Gleanings is *your* bee-journal. It is your medium for expressing your ideas. While we have never yet known the time when we were short of copy, we are always anxious to get more and more of the very best material obtainable.

FILLING SECTIONS WITH DRAWN COMBS FOR THE PRODUCTION OF COMB HONEY, AS DESCRIBED BY J. E. HAND, PAGE 805.

On page 674, Oct. 1, Dr. G. A. Humpert, of St. Louis, describes his method of producing comb honey. It will be remembered that this was a scheme for producing comb honey in extracting-combs—that is to say, the combs were drawn out, filled with honey, and capped over, after which they were cut up in squares of a size that would just neatly fit inside of the sections. These squares, when inserted, were placed in the hive for the bees to fasten, after which they were ready for market.

Our ingenious friend and correspondent, Mr. J. E. Hand, of Birmingham, Ohio, has a plan somewhat similar, but differing in this respect: Squares of nearly drawn combs, before the bees have filled them, are put into sections. These are put into regular comb-honey supers, when the bees fasten them, fill them with honey, and cap them over. Mr. Hand describes this system in this issue on page 805.

He is entirely correct in saying that bees will accept and fill drawn combs when they will ignore foundation. He is correct also in saying that, if we put drawn combs in sections in place of foundation the bees will enter them much more readily, and that we will secure a much larger percentage of No. 1 and fancy. But there is just one difficulty in the way, as we see it, and that is a serious one—*to get a sufficient quantity of drawn comb to put into the sections in time for the honey-flow.* To secure this it will be necessary to have a heavy flow, strong colonies, and probably shallow extracting-frames with thin super foundation; but thin super will stretch and buckle in frames as it will not in sections. Light brood foundation might overcome this; but then there would be danger of too much midrib.

For the last seven or eight years we have been experimenting with the proposition of getting the bees to draw out super foundation fastened in shallow frames, fill it with honey, and cap it over. Our problem has been nearly as great to get the bees to draw out thin super foundation in these shallow frames as to get them to accept the same foundation in sections. We have written Mr. Hand, stating that we thought there would be difficulty in getting the drawn combs; but he replied, saying that he has no fear on that score, because one good strong colony could furnish enough drawn comb to supply ten colonies having sections.

So far as we can ascertain, Mr. Hand has never tried this plan to any extent, or he might not be as enthusiastic about it. We have been trying something so similar, on a large scale, that we believe we have a right to an opinion on it. While it is easy to produce *extracted* in shallow frames containing drawn combs it is entirely another proposition to produce *comb* honey from foundation in shallow extracting-frames. We find that the bees are very slow about beginning this work in them. There must be a continuous and heavy honey-flow—precisely the same conditions we must have for the production of honey in sections. The bees will swarm nearly as much with one as they will in the other. We are becoming more and more convinced that the reason why bees hesitate to occupy a comb-honey super is not because it is cut up into little compartments or sections, as Mr. Hand implies, but because they do not like to stop and draw out foundation. If the sections are already filled with *drawn* combs, they will enter them just as readily as they do bait sections; but to get the drawn combs for *all* the sections—there's the rub.

Years ago, as Mr. Hand points out, we did produce artificial drawn comb by machinery. It was the work of the late E. B. Weed, and it was marvelously perfect. Bees accepted it as readily as they would

their own product; but every pound of drawn comb that we sold for a dollar cost us, we are convinced, anywhere from two to three dollars. The machinery was continually breaking down; and after we had spent several thousand dollars on the proposition we gave it up in disgust, more firmly convinced than ever that man would never be able to compete with bees in making comb.

There is another difficulty with Mr. Hand's system, and that is that the combs should be drawn the year they are put in the sections, not old combs of the year before. As Mr. Hand says, honey from unfinished sections is of inferior grade. Such sections serve the purpose of bait excellently, but further than that they are of but little use, and must be culled out and sold as seconds.

Mr. Hand has probably forgotten that Dr. Jesse Oren, years and years ago, tried out almost precisely the same scheme that he outlines in this issue. Why he abandoned it we do not know. About twenty years ago Mr. Barnett Taylor, of Minnesota, described a system very similar, with this difference: He saved out all the unfinished sections and extracted them. Then he had a little device that he called a "comb-leveler." This consisted of a hot plate slightly smaller than the inside of the section. An unfinished section was laid on top of this, and pushed down until the hot plate melted the comb to about half depth. The other side was treated in a like manner. Mr. Taylor found he could give his bees supers of these leveled-down combs in the sections, and the bees accepted them at once; but his plan was only a scheme to get rid of the unfinished sections. If we recollect correctly he soon abandoned it, as did all others. Dr. Jesse Oren and Mr. Taylor both sought to find some scheme whereby they could get the sections filled at top, bottom, and sides —hence the scheme of using drawn combs. But in later years Dr. Miller discovered a plan of using a bottom starter in connection with a nearly full sheet fastened to the top. This solved the problem of getting comb attachments to all four sides, and at the same time allowed the foundation to stretch downward as much as it would without buckling. This plan of two starters has proven so successful that it is now in almost universal use among comb-honey producers.

There is another difficulty with the drawn-comb proposition: When the bees start to draw them out they also start to fill them with nectar at the same time. They would have to be extracted, as the honey in them would not blend with the other after the bees got to storing in them again. Then the liquid honey or nectar clinging to the sides of the cell would have to be licked up and cleaned by the bees. This would take considerable labor, both on the part of the beeman and of the bees. When cleaned out they would have to be cut up and fitted into sections. This labor, if we are correct, would have to be performed in the midst of the honey-flow just at a time when the beeman has no spare time at his disposal. On the other hand, when he uses foundation he can do all this work of filling the supers during the winter time or early spring when he is not busy.

As stated at the outset, we have been producing comb honey in extracting-frames for the last six or seven years; but this has been for the individual-service trade. It is not practicable to produce comb honey in sections 1½ inches square; but there is a demand on the part of the fancy restaurant and Pullman-car trade which we have been supplying for pieces of comb honey 1½ inches square. The only way to take care of this trade is to fill shallow extracting-frames with super foundation, using a bottom starter, and then get the bees to draw it out, fill it with honey, and cap it over. To do this requires nearly the same amount of skill that would be necessary in the production of honey in sections. Well, after we get the bees to draw it out and cap it over we are ready to cut it up into small squares, allow it to drain, and put it up in cartons. This we *know* is practical because we have been working it for seven years, and that very experience of seven years with this plan enables us to form some opinion of the plan described by our correspondent in this issue.

We do not wish to throw any cold water on the plan outlined by Mr. Hand. We should like to see it tried out; and if he or any one has been successful in any plan for the production of drawn combs from thin super foundation, so they can cut it up and insert it in sections, we shall be glad to have them tell us about it. There is no doubt that bees will occupy supers containing drawn combs far more readily than they will supers containing super foundation. And that is not all. The use of such drawn combs, as Mr. Hand says, either in sections or extracting-supers, will go a long way toward the control of swarming. We are convinced that one of the prime causes of swarming is *forcing* the bees to draw out comb foundation; and it does not make very much difference whether the foundation is in sections or in shallow extracting-frames. On this point our friend Mr. Hand may not agree with us. If wrong we shall be glad to be corrected.

Stray Straws

Dr. C. C. Miller, Marengo, Ill.

L. S. Cranshaw made a plea for uniformity of terms. "colony," etc., *British Bee Journal*, 248. That warmed my heart. But before he got to the bottom of the column he was talking about managing 300 *hives*. O L. S.!

Parcel post has not been a success in sending honey, and there seems more or less of a feeling that it never will be. But across the water it has been in use successfully for years. Is there less enterprise here than in the old country?

No doubt you are right, Mr. Editor, p. 749, that wires will hold tender extracting-combs better than splints; and I doubt even whether running the splints into split top and bottom bars would make them better than wires. For all that, I think splints will give better combs.

Right you are, Mr. Editor, when you say, p. 703, that unsealed honey sometimes may be ripe. It may be well to say that the converse is also true. Sealed honey sometimes may be unripe. I've taken off sections immediately upon being sealed that were the very finest and whitest in appearance, stored them where other sections kept well, and they became dark and watery just because the bees had not ripened them sufficiently.

P. C. Chadwick thinks the soil has no more influence on the color of nectar than the food he eats has upon the color of his blood. Are you dead certain, P. C., that your food has no effect on the color of your blood? Any way, I supposed it was the general belief that soil and elevation had an emphatic effect on qualities of nectar. Dr. Kramer says a change of soil makes a change of color in queens. A certain apple on the clay soil of my place is greenish, while two miles away on prairie soil it is red. If soil changes color in an apple, might it not also in nectar?

L. S. Cranshaw says he has not found young queens laying as soon as ten days after the prime swarm, but usually expects a second swarm about that time—*British Bee Journal*, 248. I think Quinby's rule was that the prime swarm issues with the sealing of the first cell, and the second swarm about eight days after the prime swarm. But I've seen many a sealed cell where the bees had not yet swarmed. Per contra, I've known a prime swarm to issue with only eggs in queen-cells. But that was where the beekeeper had interfered by cutting out cells.

Rev. G. H. Chatterton doesn't care for special numbers, because "It seems to confuse one when there are so many different views expressed," p. 702. There will be the same divergence of views, whether all in one number or scattered throughout the year, and I'd rather have them assembled in one number so they may be carefully compared as to locality, etc., instead of being more confused by indistinct remembrance of what has been in previous numbers. [Practically every one is asking to have special numbers for the ensuing year. We expect to have announcements out soon for a new list of subjects that we now believe will be attractive.—Ed.]

Mr. Editor, you have much to answer for, trying to stir up discontent in me. I've been quite content to stay north, summer and winter, and now that scheme of yours, p. 748, makes me feel I'd like to try North-and-South beekeeping. May be I'd better try it gradually, going a little way south this fall, say as far as Washington. [Say, doctor, what is the matter with your going a little further south than Washington? Just keep right on until you get to Jacksonville, Fla. A. I. Root will be glad to see you. Then shoot northwestward until you reach Apalachicola. You will see quite a wonderful bee country; but you should be prepared for mosquitoes. They are very fond of Yankees.—Ed.]

Mr. Editor, you must be trying to make me tear my hair and shriek with rage when you say, p. 705, "While *you* have been breeding toward non-swarmers, Mr. Burt has given his attention largely to honey-producers." Huh! just as if I cared nothing for honey-producers! Why, bless your heart, don't you know I've bent my whole energy toward breeding from best producers, even to the extent of breeding such vicious little demons as nearly drove every one off the place? Non-swarming came in only secondarily because favoring honey-production. And then to have you hint that I hadn't been giving "attention largely to honey-producers"! Just wait till you get my record for this year. [Beg your pardon, doctor; but if our occasional "breaks" on the even tenor of your way are the means of inducing you to bring out some new facts that you would not have done otherwise, our readers will be all the better pleased. Come on with your record. If it is a good one for a young man it must be all the better for one past his 82d year.—Ed.]

SIFTINGS

J. E. Crane, Middlebury, Vt.

A very little oil rubbed on the hands and knife when cleaning sections will prevent propolis from sticking, and save time and temper.

* * *

It is doubtful whether any thing so valuable has ever been written on the subject of the proper time to put on sections as the write-up by G. M. Doolittle, p. 521, Aug. 1.

* * *

On page 564, Aug. 15, in a paragraph on the pollination of alfalfa by the bees I read of the production of new varieties by the hybridization of colonies. It should read "clovers" instead of "colonies."

* * *

Editorial mention is made on page 558 of hive-tongs, and illustrations are given on pp. 573, 574, Aug. 15. But I have no use for tongs. I prefer to have hives with frames that are movable rather than to use an extra tool.

* * *

I am glad, Mr. Editor, that you could get out among the bees during the busy season this year. If there is any thing that gives a fellow new life and enthusiasm it is to "get out among the bees" when honey is coming in fast.

* * *

The caution given by A. H. Snowberger, page 579, Aug. 15, about hiving stray swarms on old combs is well worth remembering. There is certainly danger of foul brood if such swarms are hived on combs. Better give them three or four days in an empty hive.

* * *

That new method of introducing queens by smoke will be of great value if it proves as good when honey is scarce as it has when honey is abundant at Medina. A method that is simple and quick and which will succeed ninety-nine times in a hundred, at all seasons, is of great value.

* * *

On page 565 Mr. Chadwick tells how his bees have become accustomed to children. I am sure he is right, as I find bees are not nearly as "sassy" where they are brought up among folks. The most disagreeable bees I find in inspecting are those that have never been handled. Oh, my! but aren't some of them cross?

* * *

What is said in that paragraph by J. L. Byer, page 518, on the value of an abundance of old stores is not overdrawn. Every young beekeeper would do well to cut it out and paste it on the door of his bee-house; and, better still, to practice it. I agree with Mr. Byer as to record-keeping. Very full records take too much time. I have found a board three or four feet long and five inches wide, with the numbers of the hives on it, ample to record all I wish.

* * *

I am glad to see Mr. Niver's name heading an article on page 576; and he makes a good point, too, on straining honey. I have tried several ways myself, but have not yet found any that was satisfactory but straining when hot through cotton cloth. The condition in which we often find extracted honey that we buy is not very satisfactory, with bits of wax, legs, and wings of bees, and sometimes larger portions of their anatomy.

* * *

On page 441 Mr. Chadwick refers to the fact in his experience of bees entering an eight-frame hive before they will a larger one. My experience has been the same; and it stands to reason that the same size of swarm will enter sections on an eight-frame hive before they will in a ten-frame hive; but there is another factor that comes in. A ten-frame hive is apt to have a larger store of honey, so that a colony in such a hive with abundant stores will bleed up earlier; and, under such circumstances, it may even enter supers before colonies in smaller hives.

* * *

The editorial, page 516, mentions the cutting of sweet clover by the roadside. Yes, it is done almost everywhere. As one beekeeper said to me, "The farmers are fighting it;" and yet, as I have driven along the roads this summer, and have seen the stock trying to get their feed from the brown pastures parched with drouth, and then have noticed the rank growth of sweet clover beside the road, I have wondered how long it would be before the farmers would learn that a very much smaller area of sweet clover with its long deep tap-roots would furnish an abundance of feed for their stock during the long drouths we have almost every season.

* * *

UPPER ENTRANCE PROVIDED BY TIN TUBE.

On p. 599, Sept. 1, Dr. Miller says, "In America no one seems to think of a hive entrance anywhere except at the bottom, summer or winter." I believe, doctor, you are wrong, for I have used an upper entrance for many years on nearly all of my hives. I began using them so long ago that

I really can not tell how many years it has been, and I have found them so useful that I have put them in in nearly all my hives. I use double-walled hives almost exclusively, and I bore an inch hole through the outside case and packing and brood-chamber, and fit in a tin tube three or four inches long anywhere from four to six inches above the bottom-board. The bees seem to prefer it to the lower entrance, especially during early spring; but its chief value is in preventing the entrances from becoming clogged and dead bees from dropping to the bottom during long-continued cold weather in winter, for I winter out of doors.

* * *

SMALLER ENTRANCES AND AN ABSORBING CUSHION.

There has been considerable discussion in past years as to the best size of winter entrance for hives. Doubtless much will depend on circumstances, such as whether the bees are wintered in a warm or cold climate, out of doors, in a cellar, or damp or dry cellar; or if, out of doors, whether packed with an absorbing cushion above the winter cluster. I believe I have held the extreme view, that, where bees are wintered out of doors with a good absorbing cushion above them, a very small entrance is preferable. Last fall I closed a number of lower entrances, leaving only an entrance through a tin tube about 7/8 inch in diameter. This tube going through the outside case, packing, and into the brood-chamber, I could not see in the spring that those colonies so treated had suffered in any way from lack of air or ventilation.

* * *

THINKING BEFORE ACTING.

Very entertaining reading, that story by J. L. Byer, page 531, about moving 250 colonies of bees 210 miles without a mishap! What interested me more than any thing else was the way he went at it, and it will bear repeating. He says, "The first thing to do was to formulate plans to carry out the work successfully. It is needless to say considerable study was spent on the matter for a few weeks prior to the trip." Exactly! and this accounts for his success. When I see how many people go into beekeeping and other lines of business without first planning their work I am not surprised at the failures which follow. One meets beekeepers with this or that style of hive or fixture, and inquires why they use it, and is informed it is because some one else does, or because some one has recommended it. They have never even asked themselves whether it is adapted to their wants or circumstances. Some beekeepers use large hives where a smaller one would be better, or a small one where a large one would serve a better purpose, or frame hives where an old box hive or a nail-keg would do them quite as well. Some use Hoffman frames where propolis is so abundant that you need a crowbar to pry them apart, and a plain Langstroth frame, as he made them, would be vastly better. I hardly need add that the men and women who think and plan are the ones who will succeed in beekeeping. Those who find it too great an effort to think had better do something else.

* * *

RUNAWAY SWARM CARRIES FOUL BROOD.

Dr. Miller, page 633, Sept. 1, quotes D. W. H., "If a colony slightly affected with foul brood should cast a swarm, would the swarm, if placed on new frames and new hive, be liable to the disease if not exposed afterward?" Doctor M. says he doesn't know, and proceeds to do some fine guessing. May I throw a ray of light with my dark lantern? When visiting a beekeeper in the southern part of this State, who had about twenty colonies, I found among them two colonies with European foul brood and one with American foul brood. The colonies with European foul brood were easily accounted for, as some of his bees had had it before, and there was more or less in the neighborhood; but where could the colony with American foul brood have contracted the disease? It was a new colony, put into a new hive about three weeks previous, in the midst of a good flow of honey from buckwheat. At first I was puzzled as to the cause, and the owner also seemed exceedingly perplexed over the matter. If a new colony in a new hive should come down with disease in less than a month, what chance had he for keeping his bees free from disease? I began to ask, "Did you give this colony drawn combs?"

"No," he replied.

"Did you give this colony foundation in the frames?"

He said he put strips of foundation about three inches wide into each frame.

"Which old colony did this diseased colony come from?" I asked.

He did not know. He said he saw them first in the air, and had no idea where they came from. It seemed evident to me that the colony placed in this hive was a runaway swarm, and had come a long distance —it may be five miles or even more, and, passing near his yard of bees, and hearing them, had clustered. The foundation was quickly drawn out, and more or less of the honey brought with them had been stored and fed to young brood, causing disease.

Beekeeping in California

P. C. Chadwick, Redlands, Cal.

I have made an inspection of the eleven colonies of which I spoke in my last notes, in which I introduced Italian queens by the Miller plan. Out of the eleven I saved four, and the wings of two of them look as if they had been pretty well chewed up and the queens not overly active. No more experimenting for me for a while with new plans of introduction, at least until I am more able to afford the expense. Almost every one with whom I talk seems to think that this has been the worst season for years to introduce queens successfully. Even with the most careful painstaking, heavy loss has been sustained.

WHAT IS THE EFFECT OF FOREST FIRES?

This has been the most disastrous season for forest fires for years. Vast areas of choice ranges have been devastated in nearly all of the southern counties. Mr. M. H. Mendleson tells me that his famous Piru range was swept on one side of the canyon, burning up so close to his apiary that one colony of bees was destroyed. A clean yard is all that saved his hives from going up in the smoke. There is considerable speculation as to what extent a range is damaged by being burned off. One beekeeper told me a few years ago that he thought it improved a range to burn it off. I have been watching the results of burning over the ranges for several years, and I am thoroughly convinced that a range is not only injured but in many cases almost destroyed. Burning over a white-sage range does not injure it permanently, for new shoots spring up from the roots the following year, leaving it in almost as good a honey-producing condition as before. With the black sage it is different, for my observations have shown me that very little of it ever comes up from the roots, but must depend on reseeding. Mr. Mendleson tells me that in his locality it sprouts up from the roots, but that has not been the case in this part of the State. Seven years ago a vast acreage was burned over to the east of Moreno Road; and on the south side of San Mateo Canyon the fire was, I believe, in August, and made almost a complete sweep of the territory burned over. The winter following was a wet one, and the area was reseeded with black sage, which has grown to such an extent that it is now nearly the equal of its former days. Another area just to the south and west of my apiary was burned over a few years later. The winter following was a rather dry one, and the reseeding was not nearly so complete. The range in that direction is permanently injured. This season is a very bad one for fires, for the seeding of the sages was very light in many places; and even if the winter should be a wet one there will not be an abundance of seed to reseed the territory properly.

WHAT IS A BETTER INVESTMENT THAN BEES?

It is no wonder that many of our beekeepers are discouraged, almost to the point of throwing up their hands in despair and quitting the bee business entirely. Two dry seasons in succession, and fires and black brood to contend with, make a combination hard to face. Are we fair to the little bee? I am afraid not. So long as the rains are abundant, the honey-flow regular, and the bees are healthy, we are great beekeepers, and prosperous fellows with plenty of courage and good cheer. But let a couple of dry seasons come along, the honey-flow slacken, and black brood make inroads in the vicinity, then down goes the mouth of almost every beekeeper. He complains of having to feed a few sacks of sugar to keep alive the same bees that have been helping to feed and clothe him. Now, Mr. Beekeeper, let us consider a few points. Suppose you sell your bees at a fair price, and quit the business. Where can you invest your money to better advantage? Where in California is there an industry that will return you as many dollars on the investment for ten years as beekeeping? It is not in the orange industry, the walnut industry, nor even the bean-growing industry. If you have, say, 500 colonies of bees, and sell them for $7.00 per colony, you will have $3500. How much bean land can you purchase for that sum? How many acres of oranges or walnuts? Wake up and figure a while. Things look blue ahead, to be sure, but no more so than in times gone by. Let's cheer up, face the music, get in, and feed the bees. Some of these days we shall have another period of wet winters, and all of this trouble will be forgotten when the extractor hums once more. Who knows but that it will be this winter? The present scourge of black brood will pass, and the fellow who stays on the job is the one who will win the reward, as sure as can be. The area of sage is narrowing down every year, and it will be but a few years until sage honey will sell at a premium. In fact, the day is now at hand when the beekeeper is going to exact the highest price for the best sage honey produced, in any quantities.

Beekeeping in the Southwest

Louis Scholl, New Braunfels, Texas.

HEATING EXTRACTED HONEY.

The writer has had occasion during the last few weeks to reliquefy about 10,000 lbs. of honey, granulated more or less, and to make some observations in this connection. One of the greatest objections to heating extracted honey is the effect this has upon the color of the honey. Each successive heating will darken it a little more, if not carefully done; and if the honey is heated slightly too much the flavor will change also. It was found that slow heating of the honey, especially if it was in sixty-pound cans, and granulated solid, did not affect the color and the flavor as did rapid heating. In the former the honey was melted gradually and with very little fire. Rapid heating takes less time, but the results are less favorable.

A large vat was used, holding six sixty-pound square cans at a time. This vat is deep enough so that the cans can be completely submerged in the water. They rest on a framework of wood, so they are about two inches from the bottom of the vat, and the vat is about four inches deeper than the top of the cans as they stand in it. In order to supply heat to the top of the cans, which can not be done very well by the hot water, a cover is placed over the vat, and this holds in the hot steam. Thus the cans are all well surrounded by heat, and the liquidation is more even and is quicker.

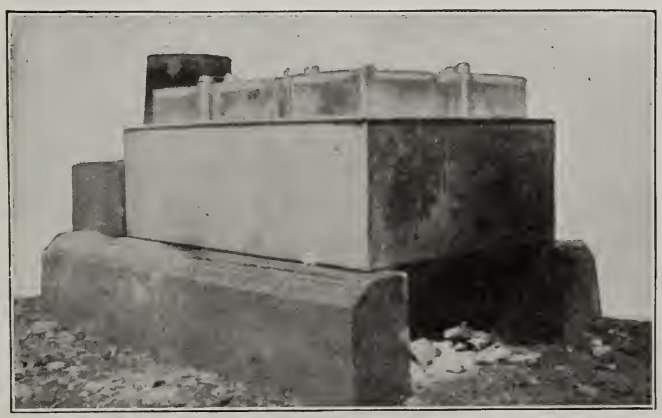
At intervals the cover is removed and the honey in the cans stirred up if possible. Of course it is difficult to do this at first; however, we use a strong steel rod, about ⅜ inch in thickness, and run this through the mass of granulated honey at various places, so as to break up the compactness of the contents of each can. Doing this several times will enable some of the liquid honey to permeate through the cavities made, and hasten the melting of the honey. After that, the entire mass can be easily stirred, and the rest of the granulated masses of honey broken up, so that the liquefying takes less time, and none of the honey gets so hot as to spoil the color and flavor.

If a set of cans is started off in cold or only moderately warm water, and then heated carefully so that the water does not boil, there is little danger of spoiling the honey. On the other hand, with too much fire and the water boiling, there is a tendency in the honey next to the tin containers to become too hot before the granulated mass is entirely dissolved. This will occur in spite of stirring or breaking up the granulated masses as mentioned above, and care should be taken not to subject the honey to such high temperature. It is true that one can "work up" a large number of cans of granulated honey in a certain length of time; but there is no saving of fuel, and there is the risk of spoiling both color and flavor of the honey.

The vat method is mentioned here for the reason that most beekeepers must resort to that way of reliquefying their granulated honey. Usually the family wash-boiler is brought into play, and one can at a time is heated. This requires a lot of fuel unless the boiler is set into a furnace, and it takes quite a lot of time to heat any number of cans of honey. Another trouble is that these boilers are not deep enough and do not permit subjecting the entire can to the heat. As a result the honey in the lower part of the can usually gets too hot while that on top is still in the granulated stage unless it is worked up continually.

A better method, and one which will pay any beekeeper, is to have a vat constructed of galvanized iron, to hold either two, four, or six cans, whichever is the most suitable for his use. A furnace may easily be

Continued on page 820.



Scholl's honey-liquefying vat, holding six cans of honey. The new vat is deeper and has a cover over all to keep the heat around and over the cans.

Conversations with Doolittle

At Borodino, New York.

DOES LOCALITY MAKE THE DIFFERENCE?

"In GLEANINGS for October 1 the writer of Notes from Canada does not seem to agree with you regarding the rearing of bees with reference to the honey harvest. He apparently bases his ideas on 'our locality,' as he expresses it. But I, for one, have great faith in friend Byer, and wish that you would give some further information on the subject."

There certainly must be a difference in localities, for I note on p. 670, Oct. 1, that Mr. Byer says that it makes him hustle to get off his basswood honey before buckwheat comes on. In this locality, buckwheat is usually sown from the 4th to the 10th of July, and basswood usually begins to bloom from the 5th to the 10th of July. Except in long-drawn-out seasons, the flow from basswood lasts from ten days to two weeks.

In this locality Carniolans, Syrians, blacks, and most hybrid bees begin to breed to excess as soon as the harvest of white honey opens. Up to that time they do not have much more than half the brood that a ten-frame hive will accommodate. A good strain of Italian bees will have at the same time nearly, if not quite, the maximum amount of brood for the season. As the season advances they will still hold about the amount they had up to the middle of the harvest of white honey, when the queen will cease laying any longer at the outside of her circle of brood, confining herself to the cells vacated nearer the center. In this way we have little honey stored in the brood-combs till the last half of the nectar yield, and not then only as the brood has matured from the outside cells. The other races of bees keep on increasing their brood until the sides and ends of the hive are reached.

Many would have us believe that the sum and substance of beekeeping depends on keeping all queens employed at egg-laying to their fullest capacity. Queens, in any well-regulated apiary, are among the smallest part of the expense incurred. Labor, hives, and combs go toward making up the larger part of the expense. Bees, when they come on the stage of action at just the right time, are *very valuable;* but eggs are of no value only as they tend in the direction of producing these *valuable* bees required in the field at the time of the honey harvest. Eggs cost practically nothing; but as soon as the bees begin to perfect them toward other bees, then they begin to cost; and if this perfecting is going on to any great extent at a time when the perfected product is placed on the stage of action, either before or after their presence in large numbers is needed, we not only have the cost of their rearing to pay for but the cost of the stores they consume afterward as well. A beekeeper willingly stands this expense at any time when the production of the individual bee is greater than its consumption. But I can see no object in doing this at any other time, simply that colonies may be "*always strong,*" or that the *extra laying capacity* of any queen may be gratified.

Let me illustrate: Twice I tried the Syrian bees, and three times the Carniolans. In each case the bees would have brood to the amount of about three or four full Langstroth combs at the commencement of the white-honey flow, while the Italians had seven or eight frames full. By the middle of the flow the former would have brood in every one of the ten frames to the amount of about nine full combs, while the Italians would have the same amount as when the flow began. When the flow of white honey ceased, the Italians would have from 70 to 100 sections filled, and brood to the amount of five or six frames, or sufficient in both bees and honey for winter, if the fall flowers should fail. The others would begin to swarm near the close of the white harvest, and keep it up till ten days after the flow had ceased. Twenty poorly filled sections were the best I ever got from any of the five different lots tried; and, with one exception, all had to be given combs of sealed honey from the Italians to carry them through the winter. It took nine-tenths of all the honey these bees gathered to perfect these bees reared out of season.

If I had used dummies, as given in the article Mr. Byer objects to, confining those Syrian and Carniolan colonies to just what brood they did have, when the flow from clover and basswood began, they would have given the amount of honey consumed (by that extra worse-than-useless brood reared) in the sections, and I would have had something to show for my labor, but nothing like that given by the Italians.

Now, as I have said many times before, let each know his locality and govern himself accordingly. If colonies "always strong" do best in a certain locality, that is what one should work for; but from my multitudinous correspondence through the last forty years I know that the rearing of bees with an eye to the harvest "draws the prize" in more localities than in Central New York.

General Correspondence

A NOVEL WAY TO PACK COMB HONEY FOR MARKET

Producing and Shipping Comb Honey in Shallow Frames

BY J. J. WILDER

There are many advantages in producing comb honey in frames rather than one-pound sections. Much more can be produced per colony with less manipulation, and at the same time it can be sent to market as safely, and net the producer as much per pound as comb honey in sections.

The illustration shows the package and manner of packing which I have adopted. I have found it perfectly satisfactory and very economical.

The box is made of very strong pasteboard, with soft partitions to separate the frames of honey. These are set in the case loosely as the frames of honey are put in, and are about ¼ inch higher than the frames, so as to keep all weight off the frames.

The box consists of only one piece of pasteboard, and, when set up, makes a complete box with bottom and top. There is a strong soft pad which is placed on the bottom, upon which the frames rest. There is also a pad placed on top of the frames. Then the top of the box is folded down and well wrapped with binder's twine. The boxes are made to hold eight frames. These, with the partitions, completely fill the box and prevent the frames from shaking about, either from the sides or ends. The twine, drawn tightly around them from both ways, braces the boxes and makes them very strong. They will stand much rough handling. The frames should be well filled and of nearly even surface in order to pack to good advantage. The top-bars are cut off even with the end-bars so as to give a good bearing at the end of the cases, and the end-bars will keep the honey properly spaced, and there is but little chance for the surface of the honey to become crushed or broken. Of course the frames should be well cleaned up. It is a very easy matter to get the net or gross weight of each package.

Honey thus packed is readily sold on any market, and will reach the consumer in good condition. Dealers who buy up and repack honey for the trade find it the very best.

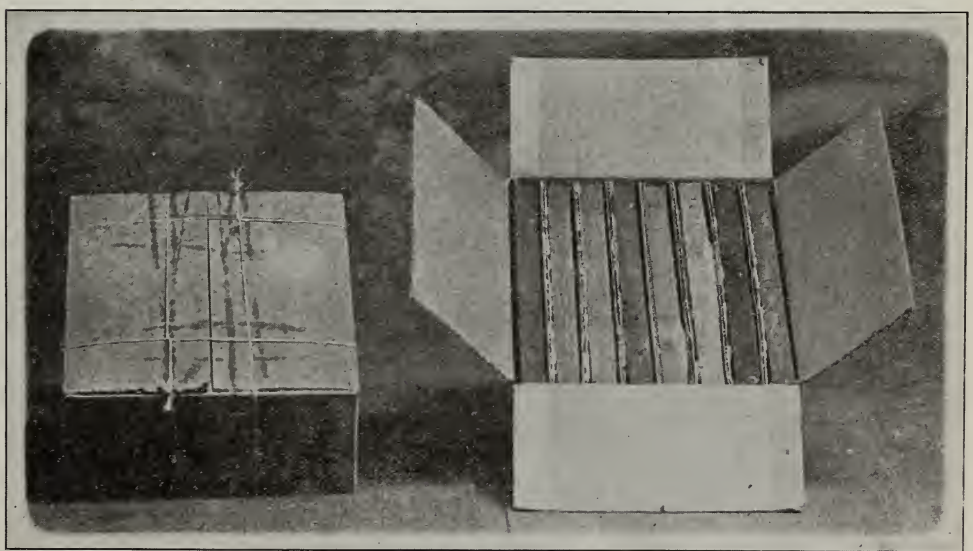
Cordele, Ga.

PUTTING FULL SHEETS OF FOUNDATION IN BROOD OR EXTRACTING-FRAMES

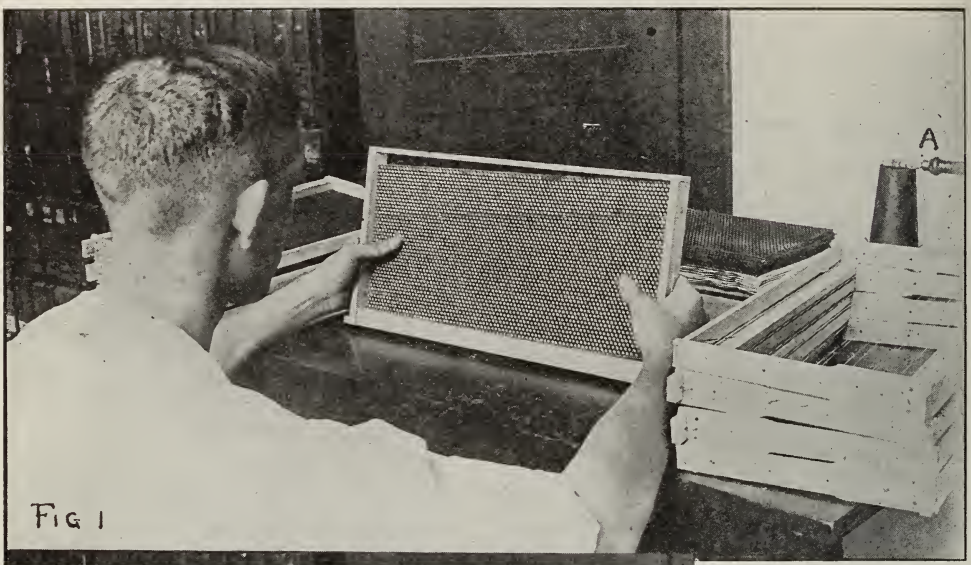
How to Use the Groove-and-wedge Plan for Securing the Foundation to the Top-bar; Preventing Sagging and Buckling

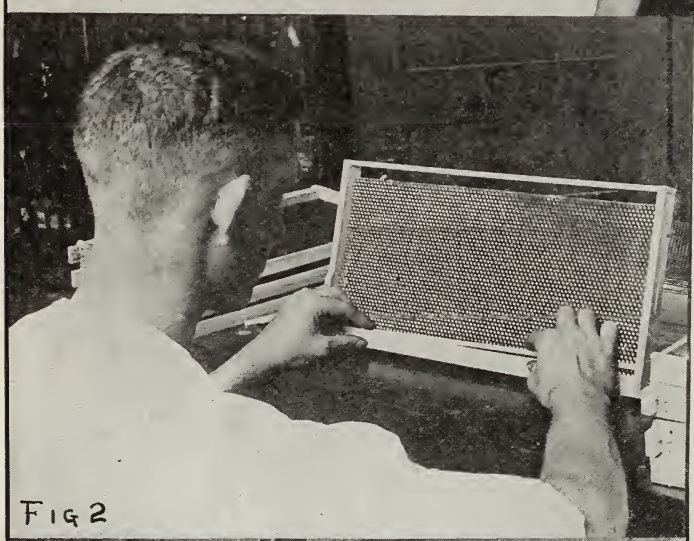
BY H. H. ROOT

There have been innumerable plans suggested for wiring frames. Elaborate forms have been illustrated in these columns for clamping the frames, holding the spool of wire, etc. We have tried many of these, but



Comb honey marketed in the shallow frames in which it is produced. On account of the danger of breakage of the large combs, the frames are separated by soft pads, and all packed in a corrugated-paper shipping-case.





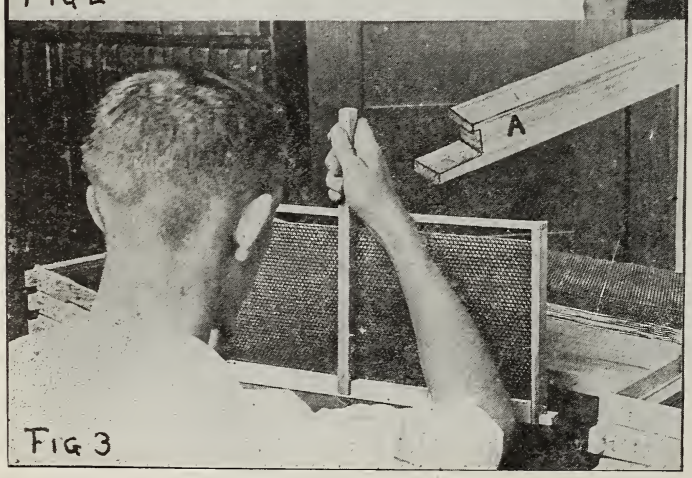
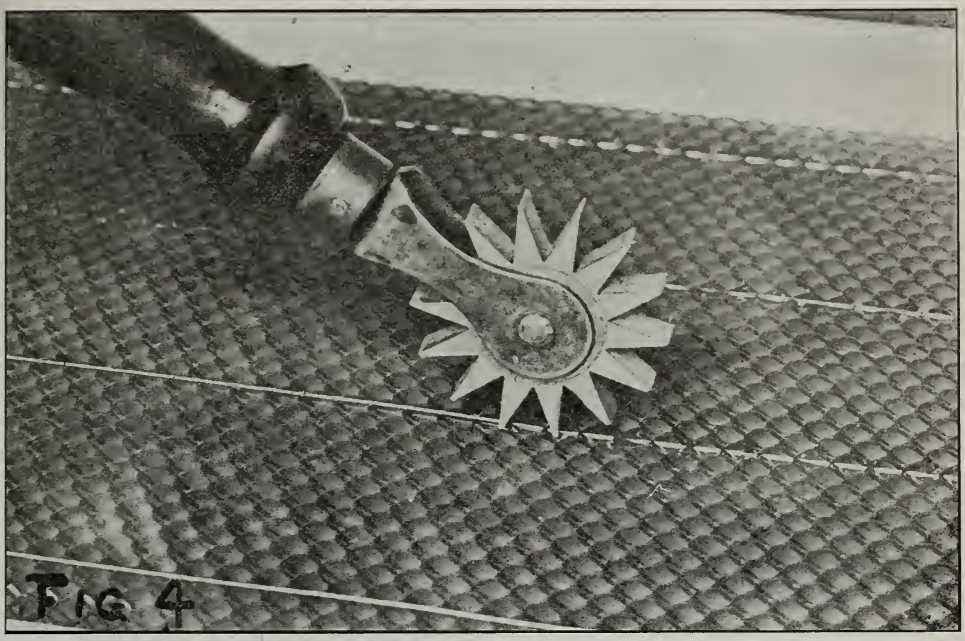


FIG. 1.—Dropping the sheet of foundation into the groove. The imbedding-tool, also shown, being heated over the lamp. FIG. 2. — Inserting the wedge. FIG. 3.—Sinking the wedge into the groove. End of stick used is shown at A.

we prefer our two hands, a pair of pliers, and a board the right length to wind the wire on. However, this is another story. There have also been all sorts of plans suggested for wiring — horizontal, vertical, crosswise, combinations of one, two, or all three, etc. But I propose in this article to give a simple plan of putting full sheets of foundation in frames having four horizontal wires in such a way that the resulting combs are as straight and free from sagging as it is possible to expect.

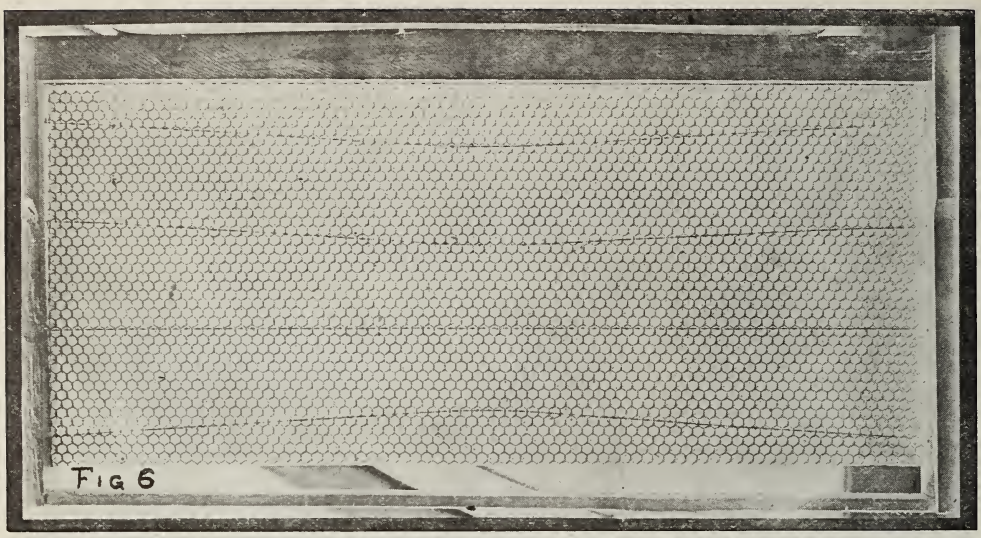
The plan suggested by Mr. A. B. Anthony, of Sterling, Ill., reported editorially in our August



The hot teeth melt a small portion of the wax, firmly "cementing" the wire in place in the center of the foundation.

15th issue, last year, is one that has a great deal of merit, for it certainly results in beautiful combs. It is not an easy matter to imbed wires out of line, however, and very likely this is the reason why more bee-keepers have not followed the plan. I hope that the description and the photographs reproduced herewith may help many to secure perfect combs—combs which do not have a lot of drone-cells near the top-bar, and which are not bulged out of shape. The ideal way to imbed wires in foundation is by means of electricity; but owing to the difficulty in obtaining the right kind of current, this plan is out of the question for the great majority. The regular tools ordinarily used for imbedding the wire simply push the wires into the wax, but do not firmly secure it where it belongs, and on this account the foundation is likely to swing away from the wire, so that the combs when built are crooked, or else the wires are to one side of the midrib. Using a hot imbedding-tool overcomes this difficulty, for a very little wax is melted at each point where the tooth strikes the wire, so that the wire is firmly cemented in place. Thus it is not necessary to run a stream of wax over the wires afterward, for they will not pull out unless the foundation is torn to pieces.

Shape of tool used. The broad blunt teeth do not cut the foundation, thereby weakening it, even if the tool is used cold. If used hot each tooth melts a small amount of wax, firmly "cementing" the wire in place.



Looking through a finished frame, showing how the wires are deflected out of line.

DIRECTIONS FOR PUTTING FULL SHEETS OF COMB FOUNDATION IN WIRED FRAMES, AND IMBEDDING THE WIRE IN THE WAX.

In order to do rapid work in putting foundation in frames, select a bench or table large enough to hold the empty frames, the pile of foundation, imbedding-tool, etc. Prepare the following equipment: A common kerosene or coal-oil lamp (one having a metal chimney preferred), a small box the same height as the lamp, and a board about one inch thick, of such a size that, when laid flat on the bench, the frame will just slip over it, in which position it will be supported only by the wires resting on the inch board. Light the lamp, being careful not to have the wick turned very high. Place it on the bench and move the box above referred to close to it Put the imbedding-tool over the lamp, resting the metal part on the edge of the chimney so the spur wheel will come directly over the heat. Support the handle by means of the box. Fig. 1A.

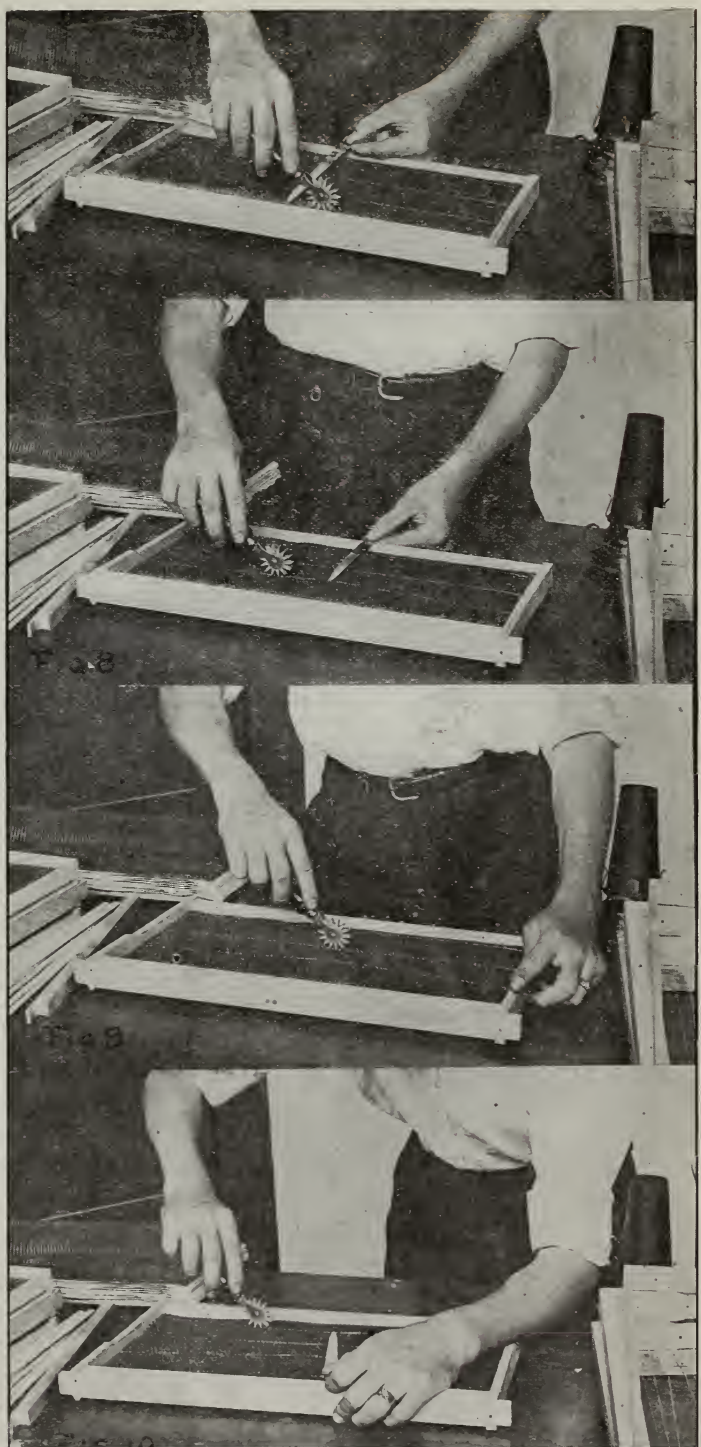
Select a wired frame; turn it upside down on the bench so that it rests on the top-bar. There are two grooves in the top-bar, the one nearest the center for the foundation, and the other one for the wedge. The frame should be standing on the bench with the groove for the wedge toward you. Pick up a sheet of foundation from the pile, being careful not to wrinkle the edge, and place it in position in the frame, holding it with the two hands, as shown in Fig. 1, the fingers reaching around the end-bar on to the other side of the foundation. Start one corner into the center groove, and then, by pulling slightly with the other hand to straighten out the sheet, and at the same time giving the frame a slight jar on the bench, the foundation will settle down into the groove. Make sure that it is down as far as it will go, so that the vertical edges are parallel with the end-bars of the frames. Start one end of a wedge in the groove, taking pains to have the beveled side next the groove containing the foundation. After the wedge is started in the groove at the left end, draw your right hand along, thus pressing it down as much as possible. Then take a stick three-quarters of an inch square, the end of which is notched as shown in Fig. 3A, and, starting at the left end of the wedge, push it down below the top of the groove. Move the stick rapidly along the groove toward the right, pushing down about every two inches so that the wedge is pushed clear down below the top of the groove all along. If this is not done, the wedge is likely to drop out later on when the wood shrinks, thus allowing the foundation to fall out when the bees get on it. The notched stick referred to should be cut with a saw from hard wood, and the shorter projection should not be over an eighth of an inch long, so that, when the stick is pushed down, the wedge will be pushed in a sixteenth of an inch below the top of the groove.

Lay the frame, in which the foundation is fastened, over the inch board, letting the foundation be next to the board and the wires on top. Push down on each end-bar to make sure that the foundation lies flat on the board. If you are right-handed, stand

at the right end of the frame; take the hot imbedding-tool in your right hand, and, beginning at the left-hand end of the frame, which is the end furthest from you, draw the notched wheel along the wire toward you, going from one wire to another until all are imbedded. Press on the handle of the tool just enough to imbed the wire about half through the foundation. The hot teeth melt the wax at each point they strike, thus holding the wire in place. Fig. 4. Do not draw the tool too rapidly nor too slowly. After trying two or three frames you will easily catch on to the knack, so that you can do rapid work. The tool should not be so hot that it melts too much wax, nor so cool that it does not melt the wax at all. When you first begin, the wheel may stick slightly so that the teeth have a tendency to slide along the wire; but as soon as the melted wax covers the bearing, so that it is thoroughly lubricated, the wheel will work freely.

TO PREVENT SAGGING AND BUCKLING.

To overcome the tendency of the foundation to sag and buckle out of shape after it is put in the hive, imbed the first wire—that is, the one nearest the top-bar, with what sag there is below the horizontal. The next wire should curve down also, although not as much as the first one.



Imbedding the wires with a hot spur wire-imbedder. The upper wire is pulled down out of line toward the bottom-bar. The next wire is also pulled down, though not so much. The third wire is left straight. The lower wire is pulled up toward the top-bar.

On July 23 was held a bee picnic at Gayville, S. D. It was well attended, and some of the vital questions pertaining to apiculture were discussed, such as "Bee Diseases," by L. A. Syverud, of Canton, bee inspector for the eastern part of South Dakota; "Relation of Bees to Plant Life," by R. A. Morgan; "The Production of Comb Honey," by J. J. Duffack, of Yankton; "Preparing Honey for Market," by W. P. Southworth, of Sioux City, Iowa.

The third wire should be about straight. The fourth, or lower wire, should have all the slack taken up by a decided curve toward the top-bar. Fig. 6. The upper wires prevent stretching of the upper part of the foundation, thus reducing the tendency on the part of the bees to build drone-cells near the top-bars; and what little sag there is will not cause the lower half of the foundation to buckle, since the lower wires can move down with it to some extent.

The wires can be more rapidly imbedded if they are left straight; but with a little practice it does not take much longer to imbed them when they are curved, as above mentioned. To facilitate the work, cut a piece of tin three-quarters of an inch wide and about eight inches long. With a pair of shears taper one end down to about an eighth of an inch in width. With a pair of pliers make a sharp right-angle bend one-sixteenth of an inch from the end of the tin, thus making a very small hook. Holding this tin hook in the left hand (Fig. 7), pull the upper wire down toward the bottom-bar, letting the tin lie flat on the wax. The imbedding-tool will pass over it without the least difficulty. Hold the tin for an instant after the wire is bedded until the wax sets, then go to the next wire as in Fig. 8; but it is not necessary to pull this one down quite as far. The third wire (Fig. 9) may be imbedded just as it lies in a straight line. The fourth wire, that is, the lower one, should be pulled up toward the top-bar, as in Fig. 10. In case the foundation is not given to the bees at once, the wires should not be drawn out of line quite as far, owing to the fact that the two upper wires might then draw it up too much, thus causing a wrinkle.

The imbedding-tool will remain hot for all four wires. It should then be placed over the lamp to keep up the right amount of heat for the next frame. If too much wax accumulates on the imbedding-tool shake off the surplus occasionally on to a piece of paper. The surplus wax, however, does no real harm unless it accumulates to such an extent as to drop down the lamp chimney and cause it to smoke.

SMOKE METHOD IN DIRECT INTRODUCING FURTHER INDORSED

BY J. E. MARCHANT

Nov. 1, p. 768, Mr. J. C. Mosgrove says he is not in favor of using smoke when running in queens. Mr. Mosgrove, did you ever give it a trial? Don't condemn this method until you have given it a fair test. Your reason is, if it is at a time when there is a dearth of honey the colony will be demor-

alized to such an extent that it falls an easy victim to robbers, or the smoke may cause the bees to fall upon the queen and kill her. It isn't necessary to get robbing started by performing such a simple operation as smoking in a queen. *We want the bees demoralized.* That is why we use smoke; that is where the success of introducing comes in.

If you have certain favorable conditions to introduce queens by the method you have been using, you get good results. By the smoke method, I get perfect results under almost any conditions. Even laying workers will accept a queen. You can run a queen into a colony that already has a queen by smoke, and the bees will kill the old queen, and accept the newly smoked-in queen.

Only yesterday, Oct. 27, one of my friends, a beekeeper, said, "Marchant, that smoke plan of introducing is the greatest plan on earth to introduce a queen. You remember that old virgin you gave me? Well, I smoked her into a colony that had laying workers which had refused to accept a laying queen that was given them with lots of her young bees. They accepted the virgin all right. I saw her an hour after smoking her in, and also two weeks after. But, unfortunately, the weather was so bad she could not get out to mate; so I killed her and smoked in a laying queen, which is doing well."

I conscientiously recommend the smoke method to beginners and amateurs. By introducing by this method, which I use entirely, one will succeed 95 times in 100 under almost any conditions.

Medina, Ohio.

NEW PRINCIPLES IN SECTION-HONEY PRODUCTION

BY J. E. HAND

Section-honey producers have long recognized the fact that bees have a decided antipathy against beginning work in sections, even when full sheets of foundation are given. This trait is so strong in some colonies that they will sulk and loaf, and actually refuse to enter sections, until compelled to do so by force of numbers. This is not to be wondered at when we consider that the space in section supers is chopped up into ridiculously small divisions, and interspersed with and intersected with pieces of wood in the form of separators, and the vertical sides of sections.

This abnormal condition breaks up the cluster, interferes with their method of ventilation, and breeds discontent among the bees, which is quite likely to result in excessive swarming since it is during this period of enforced idleness that the swarming fever is usually contracted. When once contracted, the fever will usually run its allotted course. While we may, by curtailing their efforts and frustrating their plans, discourage swarming, the chances are even that we have likewise discouraged honey production, lost control of our bees psychologically, and, therefore, made serious inroads upon our crop. For a condition of discontent among bees is not conducive to best results in honey production.

A NECESSARY EVIL AND A SUGGESTED REMEDY.

Since the abnormal conditions just described are imperative, and can not well be dispensed with in the successful production of section honey, a powerful influence must be exercised over the bees in order to overcome their antipathy against existing conditions within the storing-chamber, as well as an incentive so powerful as to induce them to enter the sections readily and eagerly.

It is well known that empty combs are a great incentive to induce bees to begin work in supers; hence they will enter extracting-supers more readily, and swarm less than with section supers when full sheets of foundation are given. Many have profited by this eccentricity by using bait sections filled with partly drawn combs carried over from the previous season, while others use an empty extracting-comb on each side. The objections to this plan, as we see it, are, first, the harvesting of two different products in the same super introduces undesirable complications, and occupies room that should be devoted to comb-honey production, especially since select colonies are usually chosen for this purpose. Second, it does not overcome the antipathy of bees against drawing out foundation. Concerning bait sections, while they evidently have some influence in inducing bees to enter sections, the incentive is not strong enough to outweigh their antipathies; hence it occasionally happens that the bait sections are the only ones in the super that are finished. In this case the others present a forlorn and dilapidated appearance as the result of an attempt on the part of the bees to remove the foundation as so much waste matter. This fact, coupled with the knowledge that fancy and No. 1 honey are seldom found in bait sections, is sufficient to prohibit their use. After testing each of these methods in turn, we discarded them both as being inefficient, ineffective, and totally inadequate to our needs.

ON THE RIGHT TRACK.

Being thus thrown upon our own resources we began to cast about to discover some method that would enable us to over-

Apiary of T. Stapleton, Gwinear, Hayle, England. Mr. Stapleton also has an outyard. In both apiaries he uses strictly up-to-date hives and fixtures.

come these seemingly insurmountable obstacles. At this stage, however, the bee journals were discussing, pro and con, the advantages of using full sheets of partly drawn comb in all the sections. Though convinced of the soundness of the theory, we were no nearer the coveted goal, for want of a practical method of securing these combs and fitting them into sections. At this time, however, the Root Co. being, as usual, awake to the needs of the hour, were experimenting with machinery for the manufacture of partly drawn combs, of a size to fill completely a 4¼ section.

THE PROOF OF THE PUDDING.

After securing a sample, and finding it entirely satisfactory, we immediately ordered enough to fill 2000 sections; and having lost no time in putting them on the hives we anxiously awaited results. We did not have long to wait, however, for the bees immediately took possession, and the eagerness with which they began work in those sections was indeed a revelation to us. These sections were filled rapidly, and were the finest we had ever before seen; furthermore, swarming was reduced 50 per cent, with a marked increase in the average production per colony. The proof of the pudding convinced us of the value of drawn combs in sections, and we would gladly have paid $0 per lb. for it the following season; unfortunately, its manufacture on a large scale was not a success, and it was not to be had at any price.

BEATING ROUND THE BUSH.

Again thrown backward upon our own resources, we scarcely knew which way to turn; but realizing the advantages of having combs firmly attached to the wood on all sides of sections, we were induced to give Dr. Miller's two-piece method of filling sections with foundation a trial. After using full sheets of drawn comb with such surprising results, however, it was a long step backward to cut up foundation into small pieces, and handle and rehandle the sections, one at a time, over a hot plate, not mentioning those that drop down from the weight of bees because the plate is either too hot or too cold. And, finally, we discarded this method also, as being altogether too primitive and antiquated to meet the exigencies of progressive methods. Necessity is the mother of invention, and again we began to cast about to devise some up-to-date method for the perfect filling of sections with foundation. This movement resulted in the development of the split-section idea, by means of which we were enabled to place a continuous sheet of foundation in the center of four sections at one operation without removing them from the frame, and the sections were so perfectly filled that no crack was visible. This was a decided improvement over former methods,

and resulted in a high percentage of fancy honey in the finished product.

PSYCHIC CONDITIONS AN IMPORTANT FACTOR.

Notwithstanding this, however, we were painfully reminded of the antipathy of the bees against existing conditions within the supers; for swarming became the rule instead of the exception, to the extent that we were compelled to devise a special equipment for the control of it. This led to the development of the switch method of controlling bees by mechanical means, which settled the swarming question in short order. It soon become apparent, however, that we were not getting the best work out of our bees that they were capable of performing; for while we had almost perfect control of swarming it was a matter of forcing them into the sections by sheer force of numbers, regardless of their inclination.

Since bee nature still revolted against the abnormal conditions that still existed within the storing-chamber, there was considerable loafing; and it became evident that the forcing process was not conducive to best results in honey production; therefore if we would maintain the psychological condition of contentment and satisfaction that is essential to best results in honey production, we must furnish an incentive so powerful as to overcome all their idiosyncrasies, and induce them to enter sections willingly and eagerly.

NEARING THE GOAL.

Fully realizing that, next to combs of brood, freshly drawn combs are the most powerful incentive imaginable to induce bees to enter supers, we soon developed our split-section idea into a method that enabled us to take a strip of drawn comb from the hive, and, while still warm, place it exactly in the center of four sections, without loosening it from the frame or touching it with the fingers, or using any tools of any kind. To say that we were enthusiastic about the development of the principle is putting it mildly; for we felt like throwing up our hat and shouting "Eureka!"

COMING DOWN A PEG.

But, alas for human endeavor! "the best-laid plans of mice and men gang aft aglee," and we were not the exception to the rule, for unforeseen and unexpected complications arose, and apparently insurmountable obstacles blocked our pathway to success along the line of split sections; and it became painfully evident that we had chosen the wrong method of applying the principle. Our disappointment was lessened by the knowledge that certain features of the split-section method had always been a thorn in the flesh to us, and we consoled ourselves with the belief that we had about outgrown the idea.

THE GOAL ATTAINED, AND THREE PROBLEMS SOLVED.

The knowledge that the basic principle must ever remain unchanged until the nature of bees is perverted was a consolation, and we cheerfully and hopefully began to bestir ourselves to discover the correct method of applying it. It involved a little inventive genius, however, for our mind naturally reverted back to our hitherto unprecedented success with the little squares of artificial comb, and little time or talent was required to develop the principle, for we felt assured that we had at last discovered the correct method of doing it, and subsequent events only strengthened the conviction.

THE EQUIPMENT.

No extra equipment is required in practicing this method, except a form composed of four blocks of wood nailed to a thin board. The position of the blocks when nailed in place is such that they will fit loosely into the four sections when the frame holding them is placed upon the form. The thickness of the blocks is governed by the thickness of the section and the depth of cells in the drawn combs. A gauge is used for cutting up the comb into pieces of a size to fill completely and snugly the sections. Two sharp thin-bladed knives are needed; for if the cells are very deep it may be necessary to use a heated knife in order to do a smooth job.

HIVES AND SUPERS.

Any standard hive of the Langstroth dimensions is adapted for use with this method. Concerning supers, any of the standard brands may be used without modification. In my opinion, however, the one listed in the Root catalog and designated as "N," Fig. 707, is best suited for this method, since it is provided with section frames which protect the outside of sections, keeping them neat and clean. It also admits of handling four sections at a time over the form; furthermore, it admits of either comb or extracted honey production, or both together, by simply changing frames. With this method it is not advisable to use extracting-combs on the sides, but, instead, a half-inch space back of the outside separators. This will insure a better filling of the sections in the outside rows.

UTILIZING WASTE MATERIAL.

A sufficient number of extra-strong colonies should be selected for the purpose of drawing out foundation in connection with extracted-honey production. In this way the labor involved in the operation does not

materially interfere with the legitimate occupation of extracted-honey production, since this labor is usually performed by young bees that have not yet become field laborers. Viewing it thus, it is evident that by this process drawn combs are secured practically free of cost, since the spontaneous secretion of wax by such a colony would otherwise be carried out between the mandibles of the fielders, and dumped as waste matter; hence economy in the utilizing of waste material is a strong point in the development of this system. By keeping the super next to the brood-chamber constantly supplied with sheets of thin foundation in shallow frames, and the top one constantly supplied with empty extracting-combs, swarming is held in check, and a surprisingly large number of drawn combs may be secured per week without materially lessening the honey crop.

THE SYSTEM CONSIDERED.

While the development of the new system is fraught with rich promises of ultimate success along the line of the spontaneous control of swarming, there are other important factors to be considered in this connection besides the building of comb; and whether or not the psychic condition of the bees, resulting from the application of scientific principles, will be of such a nature as completely to overbalance abnormal conditions within the supers, and ultimately result in the spontaneous prevention of swarming, is a matter yet to be determined, since failing health, during the last two seasons, has prevented further experimenting along this line. Viewing it thus we do not feel competent to forecast ultimate results along this line.

Drops of nectar will usually be visible in the bottoms of cells when about $\frac{3}{8}$ inch deep. If left much longer, sufficient nectar will have accumulated to necessitate throwing it out with an extractor; in which case it may be fed back, but not to the finishers, since it would undoubtedly counteract the influence against swarming. This, however, is a matter that has not yet been fully determined for reasons just mentioned. A little experience, however, will enable the beekeeper to adjust the matter of depth of cells to suit the exigencies of the case. Undoubtedly the possibilities of section-honey production and swarm control along psychological lines, a condition of soul satisfaction and content as applied to bees, are at present beyond the control of the average beekeeper.

THE MODUS OPERANDI.

In view of the crude and rambling manner in which the details of the method have been discussed, it seems like a repetition to outline the mode of operation. Having the sections folded, placed in frames, and corded up within easy reach, and the squares of drawn comb cut to the right size, place a frame containing sections over the form; place a block of drawn comb in each section, gently placing it in a correct position by means of a follower of equal longitudinal dimensions, and secure it by means of melted wax mixed with a little rosin, and applied with a brush around the edges of the comb. A little practice and experience will enable one to operate rapidly and neatly, and with results that will be highly gratifying.

OUR CLAIM.

We claim for this method, first, perfect control of bees along psychological lines; second, control of swarming—if not spontaneously, at least by means of a simple equipment; third, an increased production per colony of 50 to 100 per cent; fourth, a higher percentage of honey in the fancy grade; fifth, safe transportation by freight, since the combs are built solid to the wood on all sides; sixth, a perfect section of honey, practically free from pop-holes; seventh, it protects the outside of sections, keeping them clean and neat; eighth, it admits of handling four sections at a time over the form; ninth, sections are filled with combs without removing them from frames; tenth, it minimizes expense by utilizing waste material in comb-building; eleventh, it minimizes expense for equipment, and is rapid in operation and positive in results.

Birmingham, Ohio.

DEMONSTRATION ON HANDLING BEES GIVEN TO CLASS IN AGRICULTURE

BY ARTHUR RHOADS

The picture shows the agriculture class from the Langston Agricultural and Normal University for the colored people of Oklahoma.

These young men had never taken up the study of bees, and I invited the professor and students of the agriculture class to come to my home, where I gave them a lecture and demonstration on handling bees. The class was very enthusiastic on the subject of bees, and a number of them said that they were going to take up the study when they returned to their homes in different parts of the State.

I gave a lecture to the children of our public school last fall, and offered a prize for the best essay on the subject. There were 12 papers submitted, which were very good. The papers were graded, and a prize

Colored students from the Langston Agricultural and Normal University taking a lesson on bees.

was awarded by the State President, Mr. N. Fred Gardner, of Geary, Okla.

With the increased acreage of alfalfa, sweet clover, and cotton, Oklahoma will be one of the leading honey-producing States of the Union.

Coyle, Okla.

BEEKEEPING IN NEW ZEALAND

Some of the American Methods a Failure Due to the Difference in Locality

BY C. A. OLDMAN

Naturally I thought I was on a fairly safe wicket by following the plans of management given by such prominent beekeepers as Dr. Miller, Alexander, Doolittle, and others; but expensive experience has proved otherwise, and now I can agree with Hutchinson that " The question of all questions is that of locality."

In short, I find by experience that, if one would be successful in beekeeping, locality must first be studied thoroughly, and then any desirable plans modified to conform to the conditions that locality enforces. Weather conditions in the same locality vary, and a plan that works to perfection in a normal year will require modifying to suit unusual seasons. For instance, four seasons ago shaken swarming on foundation was a perfect success, the season being a fairly normal one, and the weather warm; but the last three seasons it has been far from successful, owing chiefly to very changeable weather, and I had to give a frame of brood and two or more drawn combs (the rest being foundation) when shaking, or I found that no attempt was made to begin operations in the brood-chamber. An excluder was used in every instance.

The plan of placing the shaken brood-chamber to one side in order to allow brood to hatch out also had to be modified, and I practiced putting it on top of a colony that could use the extra bees, giving the shaken swarm a brood-chamber from another shaken colony later on, if they required it, when their own brood-chamber was well advanced. I have had too many cases of maturing brood perishing, owing to cold changeable weather, and I have no intention of again leaving brood-chambers to care for themselves, as I consider it far better to be sure than sorry.

Alexander's plan for increase proved a dismal failure, so far as I was concerned last season. I tried it rather extensively, with the result that I materially reduced my prospective honey crop. Most colonies treated made no attempt to start a brood-chamber and the majority of them started cells on the frame of brood given below, and superseded their queens even though their queens were young and had proved to be first-class before the change was made. It

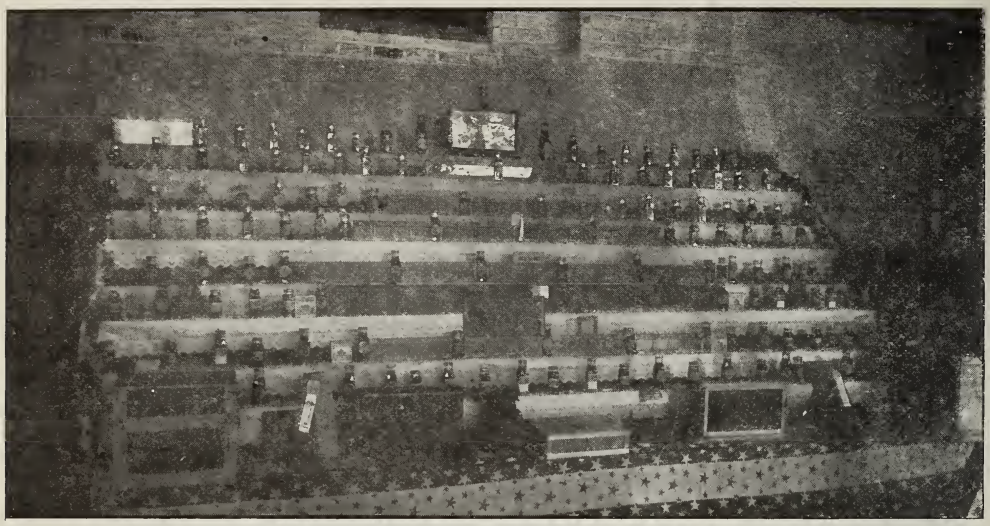


Exhibit of honey and fixtures at the Madison County Centennial, September, 1912.

is only fair to add, however, that last season was a very peculiar one, and very cold wintry weather alternated with nice summer weather, so it is fairly safe to blame the weather rather than the plan for the failure.

I intend to give this plan another trial this coming season, but will use wire cloth instead of the excluder under the shaken brood-chamber on top of the hive, and thus force the shaken bees to remain below with the queen.

I also intend to try the wire-cloth plan for treating any cases of foul brood I may have. I will treat them practically the same as outlined by W. W. Case in GLEANINGS, June 5, 1913, p. 406, with the exception that I will fasten wire cloth under the old brood-chamber and place it on top of the new hive, using an escape for the bees to leave the old combs and find the lower entrance. My reason for doing this is to give the maturing brood the benefit of the warmth rising from the cluster in the hive below, and to avoid all risk of chilled brood by a sudden cold change. If this plan proves successful it would do away with all risk of combs melting down from want of ventilation during hot weather.

In regard to the swarming problem, I would say that our season here extends for six or seven months, and the plans that work well in preventing swarming in the short seasons in most parts of America are hardly suitable here unless, perhaps, they were used repeatedly. I have just about decided that it pays me best to allow prime swarms to issue naturally, or to practice shaken swarming (keeping the queens clipped, of course), and hive on the old stand, shaking all bees from the brood-combs along with the swarm, and giving the old brood-chamber to a weak colony as a super.

I use excluders on all colonies, and produce chiefly extracted honey.

My purpose in writing this letter is certainly not to decry the plans and suggestions of experienced beekeepers in America, but rather to give a warning to beginners in various climates to go easy with any plan they may fancy, and avoid paying too dearly for their experience. A beginner is very apt to jump to the conclusion that, if prominent beekeepers' plans work well in his own locality, they are bound to be successful in every locality. This false idea can not be corrected too often.

Canterbury, New Zealand.

HONEY DISPLAY AT THE MADISON COUNTY CENTENNIAL

BY LOUIS WERNER

The honey display shown in the illustration was made at our Madison County Centennial, Sept. 14 to 21, 1912. The celebration was like a street fair. There were exhibits of cattle, poultry, and farm produce, as well as old-fashioned relics 100 years old. They said, of course, we must have our beeman make an exhibit.

The display was 16 feet long, 8 feet high, and contained comb and extracted honey, live bees, one full colony, two one-frame nuclei, and comb foundation. All the fixtures that are used in a first-class apiary were shown. Everybody thought it was the best exhibit on the centennial grounds. This

display contained 300 lbs. of honey, ranging from the smallest section to the full extracting-frame shown on the upper shelf in the center. I was awarded eight blue ribbons as first premium.

In 1886 my apiary consisted of 90 colonies which increased to 140. This yard produced 7000 lbs. of comb honey, nearly all of which was salable. White-clover pasture at that time was better than now. I got the bee fever, and the only remedy at that time was more bees. The first thing I knew I was overstocking. I soon had an apiary of 300 colonies. Finally I contracted rheumatism, and had to reduce my apiary to a smaller number of colonies; but the bees were of better quality. I handle nearly all of my bees without a veil. The best bees I have found are a cross between the Italian and Carniolan or Caucasian bees. They are good workers, winter well, are easy to handle, and they do not swarm any more than the pure Italians. I have tried them all.

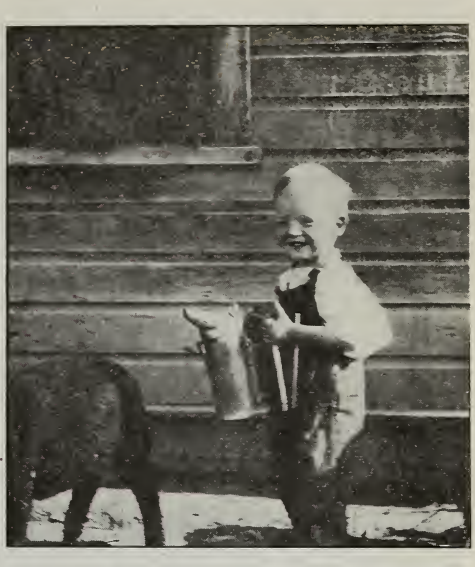
Edwardsville, Ill.

BEE INSPECTION IN MONTEZUMA CO., COLO.

BY MRS. GEORGE TAYLOR

Since Mrs. H. M. Barber died (about ten years ago) Montezuma County has had no bee inspector, and it is remarkable how rapidly conditions change for the worse. Last spring the beekeepers became alarmed as to the outcome, so they got a petition before the county commissioners, asking for an appropriation to carry on inspection. The commissioners were indifferent, but, nevertheless, allowed $200 to carry on the work. The next step was to get into communication with our State Inspector, Wesley Foster, who came to our rescue, appointing George Taylor as inspector, and spending a few weeks now and then through the summer to see that things were going all right.

While Mr. Taylor was gone he found many opportunities to get bees at a very low price, so secured all he could. This meant work for some one, putting together supplies and looking after the home bees; so, of course, the work fell to me. Our small son had to amuse himself, and his great delight was to get a smoker. He wore a large bee-veil part of the time, with stockings drawn up on his arms; and because he had seen "Dadje" roll his socks on the outside of his overalls he rolled his little overalls up so his stockings would show. Then he was prepared for battle. He would play all day long with this outfit, and many a time has stood right in the midst of singing bees, unafraid if he only had a smoker. His



Murton Ross Taylor, son of Mr. and Mrs. George Taylor, of Dolores, Col., age 2 years, 2 months, youngest member (enrolled by proxy) of State and National Associations. Photographed by Frank Rauchfuss.

prattle never ceased; but in the main he talked of bees and would say, "Murton better smoke bees; might 'ting me."

Then he discovered that, if he would puff the smoker at the lambs they would run and jump to get out of his way, so in this picture this is what he was doing.

Dolores, Colo.

AN HONEST ADVERTISEMENT

BY R. F. HOLTERMANN

Under "Stray Straws," Dr. Miller, page 705, Oct. 15, has something to say upon the subject of advertisements, and then he has the courage to say, "A lie is a lie, whether general or particular, in an advertisement as well as elsewhere." Then the editor, in a footnote, adds, "The time has come now when an exact and honest statement without exaggeration will bring in larger returns of money than boastful advertising that tries to make the buying public believe what it knows is not true." Both have touched upon a point of the very deepest importance to the people at large.

Many of the flaring advertisements we see, claiming certain articles as being better than any others, show upon the face that they are made by people who do not care whether they tell the truth or not. Yes, I assert it—*do not care;* because if they did they would not make them unless they *knew.* How can a person say certain goods are the best unless all others have been examined,

G. A. Barbisch, the beekeeper who can not walk, and a part of his apiary.

and there is no ultimate authority on the matter as to what is best? Then when it is the best, is it modest and becoming to say so? Many may laugh at me for speaking or writing of business modesty, and yet there are such things. The policy of some of the most successful business men has been to show forth the merit of their own goods, and not to pick holes in the other man's goods; and I can think back to purchases I have made from such people, and with my money went my profound respect and resolve to put in their way what I could. This line of "blowing" has, perhaps, wrought out its own destruction. They are read but not believed; they are no longer effectual in influencing thinking people. Besides, the superlative in description has long been reached, and we can no longer outdo the other in language.

But this is not the reason why I have opened up this subject. Let us be honest, and ask ourselves who makes any pretense of telling the truth. The honest answer is, "The person who in description does not go beyond fact." I have watched the growing habit of children of going beyond the truth, and, once begun, it grows until I have thought or said, "What will you do when you have reached the limit of language or imagination?" When a person tells me that he has seen some "great big" article, or writes of "great big fellows like you, with strength to burn" (see first item, Stray Straws, Oct. 15th), I say to myself that he is already digressing.

This is recorded as no jest; but many of us have heard of a lady who told the late D. L. Moody she did not know how to overcome her habit of exaggeration. Mr. Moody said, "Call them lies, madam; call them lies." This is putting the matter in its true light. If we examine our lives we must bear record to this, that, as we conscientiously value the truth, we become careful not to overstate. We may bear false witness by misrepresentation; and misrepresentation may be accomplished by telling only one side of a story. I have often had to remember the passage of scripture, "In the multitude of words there wanteth not sin." I never have perfect confidence in a person's truthfulness and reliability when he goes beyond the truth in telling a story.

Brantford, Canada.

WORKING WITH BEES FROM A WHEEL CHAIR

BY G. A. BARBISCH

The picture shown includes part of our apiary of 70 colonies, my daughter, and myself. I am sitting in a wheel chair. I hurt my spine some years ago, and can not walk; but that does not hinder me from keeping bees. I often work all day long with the bees from my wheel chair. Of course, my wife helps me all she can, and we get along well with our pets.

This season, about the middle of July, we extracted over 3000 lbs. of the finest clover honey we ever had. This locality had

a fine flow from white clover. It has never been more abundant than this year.

La Crescent, Minn.

HOME-MADE BEE FIXTURES

BY W. L. PORTER

One frequently reads articles in bee-magazines commending the beekeeper who makes his own supplies. Mr. W. Foster recommends this in the February *Review*. I have had a long and extensive experience along this line; and while Mr. Foster has had a chance to make a good many observations I must differ with him on the subject.

In the many years I have been handling bees I have been constantly running up against the home-made hive, and it has been almost invariably in my experience that such hives are a detriment and an expensive article to any one who has to use them. So far as my experience is concerned, they are an expensive article, even if the beekeeper could get them for nothing.

I have bought a great many hives of bees. These bees are in all kinds of hives, and many of them are in home-made hives. While these hives have not caused all the gray hairs, the trouble and worry over handling home-made hives and fixtures are certainly enough to make one's hair turn gray. I do not say that a beekeeper can not make a perfect hive; but I do find in my experience that nine-tenths of the home-made hives are imperfect, and even hives made by good carpenters are off somewhere. The brood-frames are either too long or too short; the rabbets where the frames hang are too shallow or too deep (often the frame hangs so as to rest on the bottom); or the supers are too shallow or too deep. I often get hives where the end-bars of the brood-frame touch the ends of the hive; and often the top-bar is so thin that the frame sags under the weight of the honey in the frame.

It has been my experience in handling and inspecting for foul brood that the home-made hive is one of the most menacing parts of the work on account of its being almost impossible to get into the hive. The difficulty in finding lumber of the right quality and dimensions makes it almost impossible to produce an ideal hive. I have known a good many planing-mills to try to make hives to sell; but the trouble to get the proper lumber, and the mistakes they make, cause them to discontinue making them.

In moving my apiaries from Colorado to Idaho I tried to weed out all of these misfits, and broke them up for firewood. They filled a woodshed to the roof. Some of these hives were made of the best clear lumber; but their imperfections made them worse than useless.

I think it best for those starting in the bee business to buy hives made at factories which have made the hive a study. In this way one can get the best. Then buy the same kind each year, thus having all the hives and fixtures alike. Parts of the hives are then interchangeable.

The same is true in manufacturing foundation. It is a science to handle beeswax properly. The factories exchange foundation for wax, charging from 15 to 16 cts. per pound. By exchanging, one gets the best, and avoids the muss and the expense of getting cans, press, etc., to make up the wax. I believe if a beekeeper is out of work in the winter, it is better that he should get busy raising chickens or something else that will pay, and let factories which have had experience and have the best machinery do the work of making the supplies.

Caldwell, Idaho.

BEEKEEPING IN AUSTRALIA

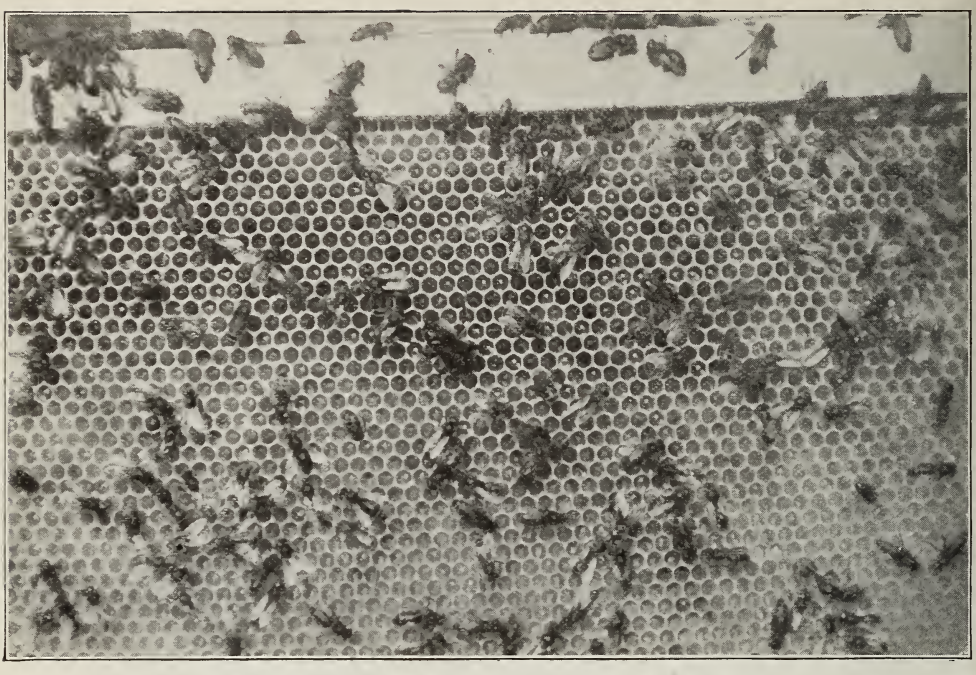
Getting a Queen into a Laying-worker Hive

BY MAJOR SHALLARD

Louis H. Scholl says, p. 720, Nov. 15, 1912, that he has never succeeded in getting a laying-worker colony to rear a queen successfully. I do not have many colonies in this condition, but I do not recollect having much bother in getting the bees to rear a queen. Mr. Scholl is speaking, apparently, of the attempt being made while the laying workers are still in the hive. I should think this would be impossible unless there were enough new bees in the hive to outvote them. I once found a colony in a very bad way with laying workers, with not more than a quart of bees in the hive. I shook them out, and gave a frame of larvæ, and another of hatching brood. They reared a nice queen, which proved to be a good layer.

BEES STINGING BLACK HATS.

Bees will sting black hats venomously, and will get so wild that they will soon transfer their attentions to the wearer, and drive him out of the apiary. A young fellow working for me once came to the apiary wearing a new fawn-colored felt hat. The bees took a violent dislike to it at once. In less than ten minutes the hat was the center of a cloud of angry bees, and the wearer had to decamp quickly. In this case I think it was the smell of the new felt that was disagreeable. I watched a peculiar experiment of bees stinging on one of my farms,



A bumble-bee that was obliging enough to pose for its picture.

although the operator did not intend it as an experiment. The bees here are always very spiteful during ti-tree bloom. This starts about the end of March, and has three sessions or lots of bloom, lasting in all until the middle of June. During the time of bloom the honey seems to be secreted in cycles—that is to say, the honey will come with a rush for three days, and then let up for two days, and during these spells the bees become very savage. The man I refer to was wearing an old pair of trousers all gummed up with honey and dust, and he got very few stings. Thinking, however, that they were really too dirty to wear any longer, he discarded them and put on a clean pair. A little while after, the bees chased him inside, and he was glad to get into the old ones again. He repeated the attempt to wear the clean one, three times, and then gave it up, and kept to the old ones until the end of the season.

ARE REDWOOD HIVES MORE IMMUNE TO DISEASE THAN THOSE OF PINE?

I think not. I have a lot of redwood hives in use—California redwood—and also thousands of redwood frames, and the bees become diseased just as easily in one as in the other—at any rate I can see no difference.

I am writing from a semi-tropical climate, and we get no American foul brood; but we do get black brood or what has been renamed the European variety. Paralysis, or Isle-of-Wight disease, is also found.

Away down south, 400 miles, where I have my other apiaries, the American disease is found, and the other two as well, although we have none of the former in the apiaries, nor has there been any for many years. Paralysis is not nearly as bad there as here. Unfortunately we have no foulbrood law in New South Wales, so each one has to look out for himself; and if his neighbor's bees get diseased, and the owner refuses to clean up, he must put up with it. We have to be thankful that nature provides a remedy for the disease in the beemoth and the ants. The latter eat the honey and the former the wax, and there is an end of the foul brood.

South Woodburn, N. S. W., Australia.

A BUMBLE-BEE THAT WANTED ITS PICTURE TAKEN

BY HARRIS T. KILLE

Who says that bees are not intelligent? One might think that the bumble-bee shown in the accompanying illustration possessed human intelligence by the way it behaved. I was trying to get a photo of the queen; but no sooner did I get the camera focused than Miss Bumble Bee came and posed herself right in front of it. Now, isn't that the

way most humans behave when a camera is in sight?

Another reason that makes me think that this bumble-bee possessed human intelligence is that she started to eat the minute she came near any sweets. She enjoyed the meal for about five minutes, when the Italians, thinking she had eaten enough of their hard-earned honey, began to tug at her legs and wings. She then flew away. The queen was far too modest to pose along with the bumble-bee. Instead she stole around to the shady side of the comb.

New Brunswick, N. J.

A CONCRETE BEE-CELLAR IN WHICH UNIFORM SUCCESS IS ALWAYS ASSURED

The Value of a Properly Constructed Sub-earth Ventilator

BY H. HARLEY SELWYN

In the October 1st issue, p. 686, Mr. E. S. Miller, of Valparaiso, Ind., deals with the advantages of a good concrete cellar for wintering bees. He also mentions the depreciation of hive material, especially outer casings and extra labor involved in packing hives on their summer stands.

Now, I do not know what kind of climate Mr. Miller has to deal with; but I do know this: that the construction of the cellar, mode of ventilation, capacity, percentage of loss, and cost of putting away 100 colonies so closely agree with my experience during the past four years that I can not refrain from reiterating the words of Mr. Miller.

A few years ago I undertook to construct a cement cellar (strangely enough), 16 x 20 feet and 7½ feet high, as suggested. The climate in the vicinity of Ottawa, the location of my beeyard, is extremely cold in winter; and to temper this air before entering the cellar I provided for a sub-earth ventilator for running under ground about 60 feet from the hillside (the cellar is situated on a rising ground), and entering the floor of the repository. This provides perfect ventilation, I find; and, to prove my statement further, the percentage of loss has been practically nothing. Of course there is an outlet for the foul air in the ceiling above, which passes through into the main room of the bee-house proper above. Mr. Miller recommends a chimney descending into the cellar on the lee side to take the air from the bottom of the cellar. As carbon dioxide is heavier than air, and as this gas is largely given off by the bees, it is natural to suppose that, under normal conditions in what might be a hermetically sealed cellar, it would be in large quantities in the lower levels, and cause uneasiness to the bees; but in my experience, the heat created by 100 colonies in a compartment 16 x 20 feet has been so marked that there is always a quick-flowing current of air out of the main vent; and to fill the vacuum created, of course fresh air, moderated by its long passage under ground, is entering. For these reasons I consider this method of ventilation superior to any other, and my experience has borne me out.

The cost of labor in putting my colonies in has been about $3.00 each fall, although it took the man I hired only part of the forenoon to carry them in and get them on the racks previously prepared. I paid him well, as he was very careful in handling each hive; and I believe in rewarding conscientious service. He has done this work for me for several seasons. I prepare the hives for moving in some time before, so that there may be no hitch in proceedings.

Each hive is given a new quilt of 6 to 8 oz. duck, cut nice and square, and leaving no holes for bees to get out after the cover comes off. Besides, a new duck quilt assures good slow upward ventilation, which I consider essential for the best of success in wintering. All hooks or crating staples are removed except one at the back of each hive, which holds the bottom-board in place and yet allows the body to rise in front, so that blocks may be inserted to admit an abundance of air to the cluster; and also to avoid the blocking of an ordinary ⅝ entrance with dead bees before the winter is half over. This should be done after the hives are in and the bees settled down.

Our winter extends over 5½ to 6 months of the year, and year after year the bees in this particular cement cellar have been in continuous confinement for that period, and yet come out strong, lusty, and clean. I do not think many beekeepers can place the reliance I do in this cellar.

Its construction as already mentioned is simple to a degree. Just clean out a 16 x 20 space 8 feet deep in a good dry hillside, having plenty of natural drainage. Put in a wooden form about 12 inches from the earth, made to hold back the cement, and fill it in day by day, taking care to leave plenty of big stone projecting from the last day's work to make good connection with the next day's mixing. When completed, one has a base for a house which is practically everlasting. Doors which sag and frames and floors swaying are unheard of and the bee-house above proves a source of satisfaction.

The ventilating system in my case was put in after the cellar walls were built. A

little tunneling under the wall was all that was necessary to pass the 6-inch tile pipe through. This tile piping serves a twofold purpose. It acts as a ventilator, and also as a drain for any water which might come by seepage in on the floor. I have had the floor cemented also, and graded to slope from all sides to the center where the elbow of the drain rises flush with the floor.

I can not too highly recommend this scheme of wintering, and I am glad to have found another who so heartily endorses it. Thanks to Mr. Miller.

Guelph, Ontario, Can., Oct. 12.

HIVE ENTRANCE MADE SMALLER BY THE BEES

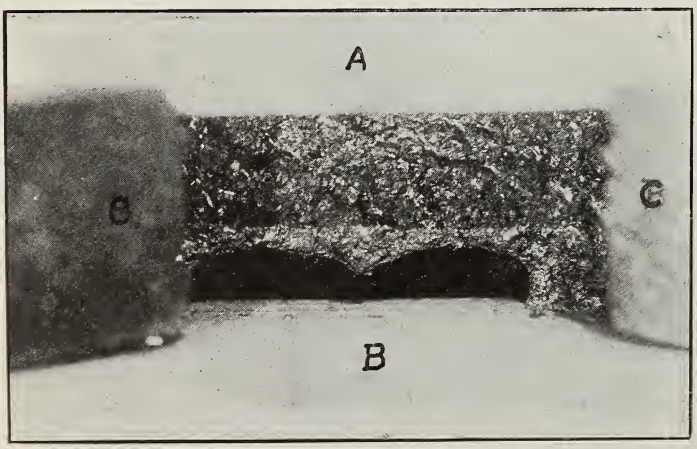
JOHN VOLLMER

I discovered the hive entrance shown in the picture when about to put up my bees for winter. My wife hived a swarm in August in an observation hive. I left them in it, after covering it with a deep telescope cover, intending to put them indoors for the winter. They were a stock that could always take care of themselves and robbers too, so I didn't contract their entrance too much; but their glass walls must have been chilly, so they built a double-arched doorway to shut out three-fourths of the cold blasts. They built it of propolis, and it much resembles stucco work.

In the print, A is the hive-body; B the alighting-board; C, C are blocks to cover the longest part of the opening.

The photo is slightly too large, as the space from the landing-board up to the hive-body is about 7/8 inch.

Ashland, Pa.



Hive entrance partly closed with propolis.

"BOOST" SWEET CLOVER

BY HARRIS T. KILLE

Sweet clover is on the stage to win, and it is up to the beekeepers to make it win. Within ten years, I believe sweet clover—that noxious weed which but a few years ago State legislatures took it upon themselves to eradicate—will be grown as extensively as alfalfa. But in order that this may be a fact and not an idle prophecy, beekeepers will have to do their part toward making it a fact. They will have to "boost" sweet clover. The farm papers are beginning to boost it; the State experiment stations are boosting it, and they haven't any honey to get by so doing either.

In the Sept. 20th issue of the *Country Gentleman* is an article by J. C. Mohler on "A Roadside Weed of Worth," subheaded "Sweet Clover Gives Promise of Becoming a Rival of Alfalfa on Many Soils." The facts of this article are drawn from the experience of a Mr. Fred Miller, Jr., dairyman farmer of Shawnee County, Kansas. It tells of the difficulty Mr. Miller had in obtaining seed for his first half-acre trial-plot of sweet clover. He was subjected to the severest criticism for attempting to propagate the pest. Seedsmen and farmers hooted at him. But he had fed some that he obtained by the wayside. He had found that, when placed in the feed-racks along with alfalfa, 21 out of 25 cows ate it in preference to alfalfa; so he planted in spite of hoots and criticism. Here, quoting from the *Country Gentleman,* are the results he obtained after he had planted and grown his half-acre plot of sweet clover:

> The second year of my experiment I wanted to know the value of sweet clover as a milk-producer. I took ten average milch cows from good prairie and blue-grass pasture about May 10th, and put them into this sweet-clover patch. It had attained a very rank growth, and was more than two feet high. The cows were kept there two weeks, and at the end of that time had gained an average of five gallons of milk a head. About June 1st I returned the cows to the prairie pasture, and in two weeks they had lost the five gallons that had been gained.
>
> Brought back to sweet clover, in two weeks they gained three gallons. The weather was very hot, and the clover was really too rank for the best results. But these cows maintained an excellent flow of milk throughout the season on this little half-acre tract of sweet clover. For pasture it is far better than alfalfa in at least one respect: It

contains a poisonous ingredient which is wholly harmless to stock, and which eliminates any possibility of bloating in ruminants, which is the most serious drawback to alfalfa as a pasture plant.

Horses are especially fond of sweet clover as pasture and hay, and hogs and cattle thrive on it. Chickens, big and little, like young sweet clover better than alfalfa.

As a soil-builder sweet clover is unexcelled. The two-year-old plants die. The roots, extending eight to twenty inches deep, from quarter to half an inch in diameter, decay, adding humus to the soil. Where the plant is allowed to reseed itself this becomes an annual occurrence. It breaks up the soil to admit air and water, and, being a nitrogen-gatherer, it also fertilizes the land. Ground intended for alfalfa will be greatly benefited by growing sweet clover for a couple of years before.

Sweet clover has proved of real service on worn-out upland farms for it is a soil-renovator as well as a flesh-former, a milk-maker, and a money-maker. It will thrive where not even weeds will grow. It prospers on the best soil, and will produce abundantly on barren wastes. It is the greatest drouth resister of all forage plants; its roots penetrate the hardest ground, even taking hold in crevices of rocks.

There are some facts in the above that it would be well for our farmer neighbors to know. Why not send the names and addresses of your farmer neighbors in to the *Country Gentleman,* Philadelphia, and have them send marked issues of the Sept. 20th issue to them? I'll venture to say that there will be more than one trial-plot of sweet clover in your neighborhood next year if you do. And, while you are about it, it might be well to see to it that Bulletin No. 244 of the Ohio Experiment Station falls into their hands. This will be a good "follow up," such as our present-day advertisers are using so successfully. This bulletin will give them directions for planting, inoculating, varieties, securing seed, etc.

Writing of this bulletin in *Kimball's Dairy Farmer,* Mr. W. B. Quarton, who has furnished that well-known paper with several articles on sweet clover, its value as a fertilizer, etc., says: "This bulletin is the most exhaustive thing I have even seen on sweet clover. It covers the widest field and the widest investigation. The results and conclusions attained bear out fully and completely all I have said in *Kimball's Dairy Farmer* in regard to sweet clover, and very much more. In composing these articles that I have been writing, I have been very conservative; but this bulletin goes far beyond any of the claims I have made for sweet clover; and any farmer who will read the evidences given by the 1882 farmers of Ohio as to the value of sweet clover for all purposes, can not help being convinced of the real merits and value of sweet clover to the farmer."

Here is the summary given in the bulletin referred to, showing the various soil types on which it was found growing: On the sands of the lake shore, the sandy loam, the pure sand dunes, on the thin soil of the "opens" on the lake ridges, on the old lake-bed soils, on very heavy soils, on gravelly moraines, on black prairie soils, on disintegrating limestone outcrop, on the river bottoms, on the white loess soil, on the red clay soils, on shale banks, sandstone bluffs, sour clay, and the sandstone quarries 20 feet below the surface.

Gleanings has a wide circulation, but I don't believe there are many subscribers but live on or near at least one of the above-mentioned types of soil; and as Mr. Quarton, the "conservative" writer quoted above, says, "It will grow from the Gulf of Mexico to Canada," there is no reason why every beekeeper can not have a field of sweet clover growing on a neighbor's farm as well as his own by next year. Once the farmers have learned the value of sweet clover for feeding stock and renovating worn-out soil. I believe it will be grown extensively by them.

Let us beekeepers turn missionaries and introduce sweet clover to our farmer friends as a falsely condemned criminal—a guileless wayside waif—that is waiting to fill their pails with milk, their soil with fertility, their barns with plenty, and their pockets with money, if they will but transplant it from the roadside to their fields. At any rate, let us see to it that there are no Sept. 20th issues of the *Country Gentleman* to go to the scrap-pile; and, if possible, back numbers of *Kimball's Dairy Farmer* containing Mr. Quarton's articles on sweet clover ought to be circulated. And, by all means, see that Bulletin No. 244 of the Ohio Experiment Station has to be run through a second edition.

New Brunswick, N. J.

WINTER FEEDING

BY O. S. REXFORD

Our usual fall honey-flow in this locality was nearly a failure in 1912, and the bees started in for winter light in stores.

I fed late in the fall, but the unusually warm weather in December and January, I think, caused a greater consumption of honey than would have been the case if the weather had been normal. I had no extracted honey to make candy, and I knew of no other very satisfactory way to feed in winter weather. Still, if I did not do something I knew that I would lose some colonies through starvation.

When Feb. 1st Gleanings came I was undecided whether to try to feed in some way or to let them take their chances. I

read Mr. A. C. Miller's article, page 80, was interested, and soon had twelve colonies feeding from the Miller-Fuller candy. Yesterday was warm, and I investigated far enough to learn that the bees found it O. K. Now if I lie awake nights it will not be because I am afraid my bees will starve. Some may think that a candy which is 14 per cent glucose is not safe for a winter feed; but bees do not often need extra feed till late in winter, and I think all will admit that it is all right in February when they are sure of a flight soon. On the evidence Mr. Miller gives I believe it is all right for any time in the winter. I think that I shall try one or two colonies, taking away the honey next fall.

It was a new idea to me that a thermometer would tell when evaporation had gone just far enough. Two hundred and thirty-two degrees seems to be just right for cold weather. If for use in warmer weather after brood-rearing is started, probably it should boil until the thermometer indicates three or four degrees higher.

Any small shallow box is all right for a feeder, turned over on the brood-frames. After putting on the packing the bees are all right till the candy is consumed.

Two or three years ago I tried to feed coffee A sugar and also loaf sugar. It was not satisfactory. The sugar remained so dry that very little was consumed of either kind.

Winsted, Conn., Feb. 22, 1913.

LAYING WORKERS CAUGHT IN THE ACT

BY JUAN CHRISTENSEN

I am having some experience with laying workers which may be of interest to beemen. I may mention that I have 16 colonies of bees about 20 miles away, and seldom see them. I have already secured 700 kilos (1540 lbs.) of surplus since October, and expect to get 300 more by the end of March. I have a lad to look after them.

About two months ago I brought some bees with a queen, and put them in a ten-frame hive across the way in this city. The bees are supposed to be Italians, but are more likely hybrids. They are two and three banded. The queen was laying, and there was a good deal of brood.

I had not been able to look into the hive for over three weeks; and when I opened it there was no brood of any sort, capped or uncapped, and no queen to be found. I got two capped queen-cells and pinned each to a different frame. A few days after, both queens had left their cells; but I could find only one, a fine-looking queen. By this time laying workers had got started and were laying with great enthusiasm, as every empty cell had eggs, from three to eight. On the second, third, and fourth day the queen was there all right.

By this time some of the laying-worker eggs had hatched. Now, I thought that, when the queen becomes fertilized (there were a few drones in the hive), she would not have a cell to lay in. I might have starved the brood. Chilling was out of the question, as the temperature at this season is seldom under 35 degrees centigrade (95 Fahr.) day or night, but most of the cells were full of eggs. In order to experiment I took a frame, shook and brushed the bees off, and set the frame near some red ants. In three or four hours they had carried off all the eggs and a lot of the brood, and what had not been carried off yet were dead—killed by the ants. As this seemed to work fairly well, I had all the frames out, two or three at a time, until I had eight frames clear of eggs and brood.

Two or three days after, I found that every cell again contained several eggs. While looking for the queen I found a worker with her abdomen well down in a cell, and her wings flat against the combs. After sitting quite philosophically for a good while, over twenty seconds, she got out and went down head first into another cell, and then quite deliberately put her posterior part down into the cell and remained sitting with her wings spread over the cells as before. I kept my eye on her; and when she next put her head into a cell I laid a pocket-knife over her and went over the way to get a pair of pincers. With this I caught the bee by the wing and was about to put her into a pen-box; but before I got this done the wing broke and she escaped.

I continued searching for the queen, and found another bee under suspicious circumstances—that is, in the position of the previous one. I caught this one and put her into a pen-box. I continued looking for the queen, and stumbled on another worker laying. This one I lost, as she went to the other side of the frame and I could not recognize her with certainty again. Shortly after, I found the fourth worker laying, and put this one into a match-box. All four were on the same frame. It seemed to me that a large proportion of the bees looked longer than usual; but the ones I caught did not seem as long as the others, but they did seem younger. The queen was nowhere to be found, and I am certain that she must have been killed. I have gone carefully over every frame several times, and there is no queen to be seen; but I found another worker laying yesterday.

I am sure that there are scores of laying workers in that hive, perhaps hundreds, and may be all have a "try" to see what they can do at laying. I notice that all the eggs are not alike, as many are small and misshapen. Probably the older the bee when it starts self-development, the worse the egg it lays. This will also explain why a queen is not tolerated. She is a sort of Ishmael among them, and they are all against her, as she interferes with their business, wanting to monopolize egg-laying.

Santiago del Estero, Argentina, S. A., Dec. 12, 1912.

SMALLER ENTRANCES IN THE WORKING SEASON

BY FRANK M'MURRAY

Will you permit a few words in regard to large and small entrances from an old beekeeper, but one who, heretofore, has never voiced his opinions for publication touching any subject of the beekeeper's art?

It is generally conceded that entrances should be contracted during the winter and early spring; but there is a wide difference of opinion as to their correct size during the working season. Evidently, entrances may be either too small or too large during the summer months. I think a 3/8 or a 1/2 inch entrance the entire width of the hive an ideal one for a strong colony during the working season. Bees show their dislike for an entrance much larger, by sometimes partly closing it with propolis. A natural swarm will sometimes refuse to accept a hive with a large entrance, though containing full sheets of foundation; but I have never known a swarm to desert foundation in a hive with a small entrance. A large entrance is especially objectionable in high altitudes where the nights are sufficiently cool to chill the brood in spite of the efforts of the bees to keep it warm. My experience shows that large entrances do not check the swarming instinct, because they do not give real ventilation. If there is real ventilation, or circulation of air in the hive, there must be an opening near the top.

These observations are true of bees under normal conditions and acting normally; but bees do not always act normally. Sometimes abnormal action will be confined to a single colony; but it may spread to an entire apiary, and one can not expect bees, while acting abnormally, to follow their usual rules of action. Unusually late swarming is an abnormal manifestation of the swarming instinct. The clustering of a colony on the outside of a tree, and the spending of the working season building comb and storing honey there without any protection from storms or cold are abnormal forms of bee action. If careful discrimination is to be made between the natural and unnatural actions of bees I think it would help beekeepers to understand better the likes and dislikes of bees, thus avoiding many mistakes.

Aurora, Mo.

PLACING HIVES ON CEMENT SLABS

Sowing Sweet Clover Seed

BY C. A. BUNCH

Last fall we made 40 cement slabs for our 80 hives of bees. Two hives were placed on each slab. These slabs are two feet four inches by 3 feet 8 inches, these dimensions being just right for two 12-frame L. hives, which are reduced to 10 frames each by a division-board. Our hives face almost exactly east, and the slabs are placed the long way north and south, and are 9 feet by 10 feet from center to center, with a catalpa-speciosa shade-tree set 18 inches southwest from each cement slab.

When we made the slabs we cut 2 x 4 studding for the form, two for the end pieces 28 inches long, and the side pieces about 4 1/2 feet long. These were laid flat on a level piece of ground, and were staked on the outside so as to make a square 2-4x3-10. This form was filled with good cement mortar. The proportion was 3 parts of sand to one of cement. This set 24 hours. Then the form was set up on edge, the cement covered with a newspaper, and another new slab was put over the one previously made. About every 24 hours a new slab was made in the manner above stated. The form was blocked up each time to the desired height until the pile of slabs was about a foot high. They were always covered in order to protect them from the sun. The pile of slabs was left thus for about 10 days until ripe. We used two forms, but several could be utilized very conveniently.

We have had one cement slab in the bee-yard for 8 years, and it is just as good as new.

The 14th and 16th of December we sowed our sweet-clover seed, 5 acres on rye ground and 14 acres on wheat ground. This seed was in the hull, and the amount was 9 lbs. per acre. Later we sowed 75 lbs. of small or June clover seed and alsike on the same ground. The 5 acres are for pasture, while the 14 acres are for hay. I think in northern Indiana December is the time to sow sweet-clover seed that is in the hull. The seed is then in the ground in good shape by

spring, and there is no danger that it will perish on the ground. The ground of course was bare of snow at the time of sowing.

Lakeville, Ind.

ROBBING STOPPED BY A BUNCH OF HORSE HAIR PLACED OVER THE ENTRANCE

BY JAMES M. MUNRO

May I share with my fellow-beekeepers two real discoveries which I made in 1912? One came about in this manner: At the end of the honey harvest I was requeening my colonies. One day after dinner I opened one hive to see if the queen had been received all right. I was removing frames, had located the young queen, and had noticed a nice batch of eggs when I heard the distinct sound of robber bees. Before I could replace the frames and close up the hive they had made quite a start at robbing.

As my large smoker was in fine trim I thought that a good smoking outside would drive them home. Instead they continued to increase. Then I resorted to putting hay and grass at the entrance; but the force of robbers became so great that they would push it far enough to get in and out. I feared to add more hay lest I should smother the inmates; and, besides, I began to be peppered with stings.

As a next resort I tried a Myers bucket spray-pump; and, oh! didn't I deluge them until they hung around the hives like drowned rats? Then I let up. The reserves, however, renewed the attack. I went at it again reluctantly with the spray-pump, for it acted like a mule that kicks both ways. It squirted at the handle as well as at the nozzle, so that I got my share too. I finally gave up, owning that I was beaten.

As I walked away, expecting nothing but a ruined hive, I saw a bunch of horse-mane trimmings the boys had left near by. In my desperation I grabbed it and slapped it in place of the hay at the entrance of the hive. I wish you could have seen the halt. The bees darted back as if they thought it was some uncanny animal ready to kill them. I shouted "Eureka!" and, although soaked, I sat and watched the bees and enjoyed one of the heartiest laughs of the season. The robbing note soon died away, and they retired to their own hives.

During the rest of the season I used nothing else, when robbing started, than the wad of horse mane or tail hair, which I placed close up to the entrance of the hive. There was no danger of smothering the bees, so I could go away and start other work, quite contented that there would be no robbing at that hive. It does no harm to leave the horse hair at the entrance till noon of the next day.

HONEY A CURE FOR BILIOUSNESS.

When ten years of age I had typhoid pneumonia. My life was despaired of; but after a long tedious illness I was able to go about with two crutches. From that time I always suffered from biliousness. Nothing seemed to help me. When I grew up to manhood I began to keep bees and to eat honey freely. It was honey instead of butter; honey instead of preserves and jams. In fact, honey three times a day. At present I do not know what it is to have a bilious attack. I attribute it to the free use of honey. Honey used in this way is not only a cheap medicine, but also a nourishing food.

Slate River, Ont., Can., Dec. 30.

HEATING EXTRACTED HONEY

BY LOUIS SCHOLL

Continued from page 797.

constructed out of concrete blocks, bricks, stone, or whatever is handiest. The illustration on page 767 will give the reader an idea of the one we are using. However, it should be borne in mind that we have changed to a deeper vat than the one shown, for the reason that we did not have entire success with this one. As mentioned, the honey in the upper parts of the cans liquefied too slowly, while the lower honey was getting too hot. This is overcome by using a deeper vat and a cover over all.

[When liquefying honey in 60-pound cans by the hot-water method, we never have any trouble in getting enough heat at the top. If the water reaches to within a couple of inches of the top of the can the honey *near the bottom* is always the last to liquefy. In our judgment, if so much heat were applied to the top of the can, there would be danger of scorching the honey in the upper part.—ED.]

* * *

It has been said many times that it never rains in Texas; and, judging from the long dry spells and drouths to which we have been accustomed, a good many people who do not know Texas so well might have believed that the above is true. But, lo and behold! Texas has not only had rains of late, but continued rains for weeks and weeks; and the result is that washouts and floods, and damages of all kinds, were reported from all portions of the State. Thirteen and fourteen inches of rain in a few days was a common report, and creeks and rivers that had not been up for years turned into raging streams, causing much damage in many instances.

Heads of Grain from Different Fields

Solution for Destroying Grass and Weeds

I know that grass and weeds growing near the hives seem to be a matter of considerable seriousness to many of your correspondents, and the remedy seems to me to be so simple that it should require little consideration. It is known to all that merely scattering ordinary table salt in the vicinity of hives will quickly destroy all forms of vegetation, and is harmless to the bees. Any of the ordinary arsenical weed-killers, such as are generally sold by seedsmen, will also prove very effective. The beekeeper can prepare his own weed-destroyer, if he desires, by dissolving an ounce of arsenious acid and two ounces of ordinary baking soda in three gallons of water. This is, of course, a deadly poison, and should be kept beyond the reach of children. Ordinary sulphuric acid will serve the same purpose. It requires the addition of only about a pint of the concentrated commercial acid to about five gallons of water. Again, one can prepare a very cheap and effective weed-killer by dissolving 5 lbs. of copperas in 10 gallons of water. Blue stone, or copper sulphate, can be substituted for the iron sulphate in making this solution. To destroy the weeds the above solutions should be sprayed upon the grass or weeds around the hives.

BLACK MARTINS FOR DESTROYING THE MOSQUITO-HAWKS OF FLORIDA.

I note that some of your Florida correspondents report that the ordinary mosquito-hawks, or dragon-flies, are a serious source of loss, particularly to the queen-breeders. My own observation and experience for twenty years have shown me that there is nothing which destroys such enormous numbers of dragon-flies as the black martins, a large swallow which is found throughout the United States, and which should be plentiful in Florida. These birds subsist almost entirely upon dragon-flies, and it only requires concerted action on the part of those interested to provide them with the necessary boxes in which to breed. It follows, as a matter of course, that the number of such birds that could be attracted by a single beekeeper would not serve to exterminate the dragon-fly from his vicinity; but if the protection and breeding of these birds could be generally encouraged throughout the State, the number of dragon-flies would be enormously reduced in the course of one or two seasons. I might say that these swallows are not bee-eaters.

Detroit, Mich. J. M. FRANCIS.

Danger of Supersedure of Queens Introduced by the Smoke Method

I should like to say a word to J. A. McKinnon in reply to his article on page 690, Oct. 1—that is, regarding the danger of supersedure of a queen in the smoke method of introduction. I have found that, if a hive is opened, in three or four days afterward the bees often ball the queen. When I find them balled, if I release them and smoke them in again in the same hive they will be found ten days later doing well. When I smoke in a queen I clean away the grass in front of the hive. The next morning I look for her dead body in front of the hive. If I do not find her I know she is all right. However, I look into the hive about ten days later; and if I find eggs and larvæ I go no further. I lost just one queen this season, and none were superseded.

SHALLOW COMB TO HOLD THE DISEASED HONEY WHEN TREATING FOR FOUL BROOD.

Late last fall a friend and I bought 22 colonies of bees. It was too late to look through them to see the condition they were in. This summer there were three colonies that developed foul brood, and I want to tell how I cured it, for it was so easily done.

I prepared a new clean hive with full sheets of foundation in nine frames. The tenth frame was a shallow extracting-frame filled with an empty comb, and was placed in the center of the hive. All the bees were brushed (not shaken) into this hive, and were allowed to remain that way for four days. At the end of the fourth day I took out the shallow extracting-frame and brushed the bees off and put a full-sized frame with a full sheet of foundation in its place. During the four days the bees had stored all the diseased honey they carried with them in the shallow frame, so I burned it as soon as removed. That settled the foul brood; and what nice new clean combs they have now, well filled with honey and healthy brood! The old hives and combs were placed in an out-of-the-way place with enough old bees to care for the brood, and to act as guards at the very small entrance. In three weeks they were shaken again with the young queen that they had raised; so, instead of three unhealthy colonies we now have four healthy ones. The old combs were melted up into wax. As a precaution against robbers the work was done late in the evening, and the combs were melted after dark. The old hives were saturated with gasoline and set on fire. The gasoline soon burned off and left the hives clean and ready for use. The frames were burned.

Kansas City, Mo., Oct. 17. A. T. RODMAN.

An A B C Scholar's Rapid Increase; Can we Have Too Much Shade for Bees?

I have been a subscriber to GLEANINGS since I started keeping bees, which was with one hive. I have since increased to 200 colonies, and this year we had over twelve tons of honey.

While I am much indebted to GLEANINGS and the A B C of Bee Culture for inspiration and knowledge, I have not seen enough said about shade for bees. While I am about to start an outyard in a young forest in a dense shade, will you kindly tell me if the shade would be good for the bees?

Beeton, Ont., Oct. 4. CHARLES E. ARNOLD.

[The place described would be, in our opinion, too shady. Bees will not build up in spring, nor fly out as early in the morning, nor as late at night, where there is a large amount of shade. Experience demonstrated over and over again that an excessive amount of shade is detrimental. But a very moderate amount, or, to speak more exactly, shade that will protect the hives from nine to ten o'clock in the morning to two or three o'clock in the afternoon, is a benefit. If this shade consists of trees or grape-vines the leaves will fall so that the colonies will be out in the open in the early spring and late fall, when they need all the sun they can get.

The location that you describe, however, would be most excellent from the standpoint of windbreaks. For good results in outdoor wintering, forest-trees afford the best kind of windbreak.—ED.]

Reconstruction of the Canterbury Beekeepers' Association

Readers in America and elsewhere who are interested in the doings of New Zealand beekeepers will remember that a conference of beekeepers of the Dominion was held last June, when a constitution was adopted under the name of the National Beekeepers' Association. This is framed somewhat on the lines of the American Association of the same name, and is designed to include all the beekeepers of New Zealand. After the delegates returned and had presented their report the situation was fully discussed; and the Canterbury Association, which had been carrying on the work under a federation of already established associations decided to remain as an independent body, and to push forward its

own policy. This having been decided on, a number of meetings were held, and an alteration has been made in the rules which now provide for a slightly increased membership fee, and provision has been made for objects which were impossible of attainment under the old rules. The action of the Canterbury Beekeepers' Association has been adversely criticised by one newspaper; but from accounts at hand at least some of the other associations are likely to follow suit. The Canterbury Beekeepers' Association will now push forward the export trade in honey which was commenced in a small way last season. The government will shortly issue regulations dealing with the subject, and a committee of members will see that these regulations are complied with. Meetings will be held quarterly, and it is intended to have a question-box on the table where inquiries can be put. These will be discussed, and answers supplied, which will help beginners (and advanced students) out of any difficulties they meet with.

Since the inauguration of the export trade, there has been a large increase in membership, showing that the Association's efforts are appreciated. The prospects for the coming season at present are good. Spring is earlier than usual, and weather warm. The winter has been rather dry, and there has been considerable frost. Fairly good rains fell during the latter part of the winter; and if we do not have a cold spell, such as we had last year during and after fruit-bloom, there should be a good crop. Bees are building up rapidly in many parts, and beekeepers are getting busy.

Christchurch, N. Z., Sept. 9. E. G. WARD.

[The winter in New Zealand is at the same time of the year as our summer.—ED.]

Bees Successfully Wintered in a Cold Cellar

Last winter my cellar was cold because I did not finish it until the ground was partly frozen. I put my bees (five normal colonies, one weak colony, and two very weak nuclei) in the cellar about December 5. A few days later I went to the cellar and found that the moisture from the colonies had frozen on the bottom-boards in front of the hives. I put up another door to make a dead-air space. This did not help matters much.

A short time after, we had a few days of warm weather, during which I opened the outer door in the morning and closed it in the evening. In this way the cellar was warmed so the moisture did not freeze except on cold days. I watched the bees for signs of bad wintering, but found none until early spring, when they began to roar during a few days of warm weather. The two nuclei died before spring; but the rest came out strong. One colony in an eight-frame hive covered seven frames.

Hurley, S. D., Oct. 6. MENHOLT CHRISTENSEN.

2300 Lbs. of Comb Honey and 70 Colonies of Bees all from One Runaway Swarm in Four Years

We are fast driving the saloons from Southern California, there being but four towns in our county that are still wet—the city of Los Angeles, Santa Monica, Redondo, and Venice. Our board of supervisors have just passed a strict law to stop the liquor men from sending their wares in to dry districts. One town, Glendale, has never had a saloon, and I hope it never will.

I started in the bee business four years ago with one swarm that I caught. This spring I had thirty, and took 2300 pounds of comb and extracted honey, and have seventy colonies at this time. It has been a poor year in most places in this country.

I used to take your paper when I was a boy in Pennsylvania, at the time you were interested in Helen Keller. I was a great admirer of Rambler in those days, and also of the articles written by Ernest R. Root on his bicycle trips. I think it was in New York.

I sent to Washington for seed of the dasheen, and received word last week that they were out for this year, but would put me down on the "waiting list."

RAISIN GRAPES AND WINE GRAPES.

I saw in the Oct. 1st GLEANINGS an article asking the question why the California grape-growers do not make the grapes into raisins instead of wine. The wine grapes will not make raisins, as they are too juicy. The varieties that make raisins are the muscatel, or muscat malagas and Thompson's Seedless, or Sultana, all green grapes.

SULPHUR DUST FOR BEE PARALYSIS.

I had three colonies that showed bee paralysis last spring. I tried an experiment. I was sulphuring my grapevines with a power machine. I put the spray at the entrance of the hive, and filled them full of the sulphur dust, and in a week they showed no signs of the disease.

Burbank, Cal., Oct. 22. W. H. REYNOLDS.

Bees in Hot Weather do not Tarry Long when Drinking Water

With the mercury 104 in the shade, and not a particle of air stirring at 1 o'clock P. M., I timed the bees at the water-tub. In making 20 tests, no bee was over 45 seconds, and none less than 35 seconds, taking its supply of water, and the next day I made the same test with the same record. I was surprised that they did not vary more in time they were on the rim of the cement tub. There were from 100 to 175 bees on the rim all the time.

Bradshaw, Neb. C. B. PALMER.

The Bees Varnish the Inside of the Hive so that the Wood is not Porous

If some one will show me a hive that has been occupied by bees any reasonable length of time that is not thoroughly varnished on the inside, making it absolutely air-tight so far as the pores of the wood are concerned, then I will feel as if it were a mistake to paint and close the pores on the outside. You men who oppose painting hives "because it closes the pores of the wood," examine the inside of your old hives that have recently been occupied.

Rocky Ford, Colo., Oct. 21. A. S. PARSON.

[Hey, Dr. Miller, what sort of answer have you for this argument?—ED.]

Shrinkage in Weight of Comb Honey After it is Removed from the Hive

Is there any shrinkage in the weight of section honey, say in three months' time, if it is removed from the hive right after the main honey-flow?

Wadsworth, Ohio. JACOB L. LIND.

[There is some shrinkage in the weight of comb honey, say in three months' time, after it is removed from the hive. The amount of shrinkage depends upon the atmosphere in the room where the honey is stored, also upon the thickness of the honey when it is removed from the hive. However, it is quite common to find a shrinkage of about three per cent in the weight of the honey—approximately half an ounce per pound.—ED.]

Some Colonies Affected with American Foul Brood

During my work as bee-inspector I have had quite a little experience with swarms from colonies having American foul brood. This seems to be against the theory of some of our writers, and I should like to know whether such swarms are the usual thing, or quite rare.

Salem, Iowa. J. W. STINE, Deputy.

Our Homes

A. I. Root

Whom the Lord loveth he chasteneth, and scourgeth every son whom he receiveth.—Heb. 12:6.

TAKING CARE OF THESE BODIES OF OURS.

Just now in this present age of progress the whole wide world, especially the younger portion, is studying automobiles. Even in farming communities (at least in and around our Medina home), there are automobiles to get around in the world rather than depend on horses as we did a few years ago. And most of these farming friends have learned that automobile doctors are expensive as well as the old-fashioned kind of doctors. Automobile owners are studying up the mechanism as they never studied any thing before; and they are learning to make their own repairs instead of going to the garage. It has been a wonder to me how the *boys* get hold of the intricate mechanism of an automobile; and even older ones have learned by experience the importance of using an automobile—I was going to say in a *humane* way, so as to avoid the expense of running, as much as possible. Now, this is a grand undertaking. I do not know of any branch of education that is as important just now as something along this line, unless indeed it is an education that concerns these *bodies* of ours—these God-given bodies—in order to keep the human frame up to its best. The whole wide world is making great progress just now along this line.

Now, this Home paper may be objected to because both Terry and I are going to talk *exceedingly plain;* but, notwithstanding, I believe this talk will be of more help to humanity—especially *suffering* humanity—than any thing else I have talked about for a long while.

On page 657, Sept. 15, I said, "If my good friend and neighbor should get sick, down would go his teachings, or at least they would go down a little way." The above was dictated somewhat in pleasantry; and little did I dream while I was speaking that my good friend Terry was seriously ill, with a doctor and a trained nurse. While he was unable to write, the good wife gave me full particulars in regard to the matter; and already I for one began to see God's loving hand in this affliction; and instead of his teachings going *down,* I think the sad occurrence will be the means of making his teachings even *more* valuable.

With this preface I wish to give you the following, which I clip from the *Practical Farmer;* and by the way, friends, if you are not already taking the *Practical Farmer* I think it will pay you to subscribe for it for Terry's teachings alone. No other writer, so far as I can learn, has ever undertaken to give the world, without a cent of pay, such sensible exhortations on caring for these bodies of ours, exactly as we are caring for automobiles nowadays, that they may run *thousands of miles* without a cent for repair. Here is the clipping:

ATTENDING THOROUGHLY TO NATURE'S CALLS.

This is an important matter which has never been discussed in detail in these columns. And still many thousands of people suffer more or less from lack of attention to as simple a thing as this, and do not know it is because they are violating one of nature's fixed laws. The points we wish to bring out strongly to-day are attending promptly and thoroughly to the slighest call of nature for the evacuation of the bladder or bowels. You may think this too simple a matter to pay any attention to. But let us explain how neglect works. In the rush and haste which is so common a man may fail to discharge quite all of the urine from the bladder. This urine contains poisons, usually more than it should have. Any left over in the warm bladder begins to decay. This may, in the course of time, bring on more or less irritation, and in the end perhaps inflammation, swelling of prostate gland at neck of bladder, and so on. Then in extreme cases life may be worse than death at times. Getting a little chilled, overeating, improper food, overworking, even worrying, may start up trouble on short notice. What we call a cold may bring on an inflammation in the bladder which will cause serious illness. You see nature chooses this weak point, unless there is a still weaker one, to build a bonfire to burn up surplus waste. This trouble is quite common among elderly men. The writer has known a number to whom life was almost unbearable. Some of them let the surgeon cut out part of what nature put there, and in every case the end came within a year or two of agony following the operation. The general impression is that old men can not avoid this trouble. The truth is that improper ways of living, such as are mentioned above, bring on the terrible ill. It can be relieved after one becomes badly off, so he can get along comfortably, by living as we teach. I have full faith that it can be cured; if not, it will always remain a weak point, and God help the poor man who, by some little carelessness, lets the inflammation get started again.

ATTENDING PROMPTLY TO NATURE'S CALLS.

Fifteen years ago the writer got up early and rode in an open wagon 12 miles one frosty morning. He was very cold, and should have gone straight to the water-closet when he landed at the hotel. Instead, he stopped in the office before an open fire to warm a little. And then in came a party of ladies to show us about town. Had he dreamed of the terrible trouble to follow he would have excused himself for a few minutes. But you know this was not a pleasant thing to do, with the closet door in plain sight and a sign on it. So he went with the ladies and suffered severely before he got back to the hotel. That evening he was taken dreadfully sick with what afterward proved to be inflammation of the bladder. He picked up enough in a few days to get home, and then went down flat again and suffered death almost daily. This was the beginning of the serious troubles in this line which the writer of these columns has had. Doctors proved powerless to cure. With no end of grit he set about learning to live so he could

get along comfortably. After some years he got so he felt well. He did not have to get up once in a night as a rule. The bladder become normal, and would hold full without discomfort. But, dear friends, it seems there was still that terrible danger spot at the outlet of the bladder ready almost to kill him if any thing went wrong. For years nothing did go wrong. But over four weeks ago he did two weeks' work in one by writing articles and answering many letters, trying to get ahead a little. Then down he went flat again, and suffered beyond words to express until he longed for death. He had to try to urinate every 30 minutes, and the nights were awful. But a good doctor who does not drug people, and a first-class trained nurse from the city, pulled him through. He lost his grip entirely, and had to let others manage for a time. This story of the starting of the trouble has never been told to any one before. It would not be told now, except as a warning to others. It is an extreme case; but it is risky to retain urine in the bladder when nature calls for it to be discharged. I have not given up by any means trying to make that danger spot sound; but, oh how much better never to have brought it there!

HOW TO KEEP BOWELS IN PERFECT ORDER.

It is important also that one attend to the evacuation of the bowels every time as soon as possible after nature gives a hint in this line. To neglect nature's call helps to bring on constipation and reabsorption of filth. It is well to have regular times, and never pass them by. Nature will soon drop into line. When one first gets up in the morning, and after meals are good times. Twice a day is none too much for best results; and the excrement should be quite thin so as to come out easily without straining. You see the colon, where waste is stored waiting to come out, is lined with rough folds. Excrement that is quite thin will pass out steadily and naturally. If it does not do this there will in time be some trouble, resulting the same as when one leaves a little of urine in the bladder. It is a simple matter to live so as to make waste pass out loosely and naturally. Eat all of the wheat, corn, etc., not bolted products from which the cellulose has been extracted. Eat fruit freely, fresh when possible. The vegetables are good also. Uncooked grain, like rolled wheat eaten dry, is better for this purpose than cooked. Drink freely of pure soft water. This advice comes after ten years of entire success keeping bowels loose and all right from one who twenty years ago never had a movement without first injecting water. If you have no trouble in this line be thankful. If you do have trouble you can never have perfect health until you overcome it by natural means.

HOW TO PREVENT A COMMON TROUBLE AMONG CHILDREN.

We have had a number of letters asking for a remedy for bed-wetting and wetting clothes in daytime. We have been told of doctors giving medicine for kidneys in such a case. But this is all a mistake. The kidneys are all right, and so is the bladder, as a rule. The cause of the trouble is much more simple. A nurse trained in a hospital in Toronto, Can., was taking care of a sick mother. A six-year-old daughter would come in crying from play with her pantlets wet, and she wet the bed also. The mother said to the nurse: "I would give you almost any thing if you could cure my child of this trouble." The nurse said: "I will, if you and the father will back me right up for a few days." They agreed positively to do this. When the little girl came in wet in the afternoon the nurse bathed her and put her to bed without any supper, and told her she would get the same punishment every time she wet her clothes. You see, she was so busy playing that she would not stop until the bladder refused to hold more, and emptied itself. She had never been taught or trained in this line. That was simply all. She called her father, but he was as firm as the nurse. Then more attention was paid to diet, to have it simple, plain, and wholesome. And very little water, milk, or other drink was allowed at supper time. She was encouraged to drink early in the day. In less than two weeks all wetting of clothes and bed stopped. The child showed the result of training by an expert who knew. Much drinking near the close of the day, and an excess of poisons in urine from improper food, hasty eating, etc., make the trouble. The poisons mentioned irritate the bladder of the little one, and she is sleeping too soundly to awaken, and the result is a wet bed. We have waited to answer the questions in this line until we had positive proof from some one we could depend on that the trouble could be stopped in a short time. But let us beg of you not to give the little ones any of the drug "cures" that are advertised. Simply remove the causes of the trouble.

The above almost made me smile to think how plainly Terry has outlined a physical trouble that has followed *me* through life. When I was but a baby, after a severe sickness that nearly took me away this trouble followed me. Yes, I groaned and wept over it until I was a dozen years old. It seemed almost *imperative* that I should be in the open air, and this, perhaps, explains somewhat my love for gardening, chickens, bees, etc. In traveling I have learned by sad experience the importance of hunting up water-closets; and when I go to a convention my first move is to go to the janitor and find out about water-closets. If they are locked up I find where the key is kept. When I am invited to attend some meeting where there are to be two or more addresses without a recess I am often obliged to stay away on that account. Here is another point: You know I have been vehement about the matter of ventilation (as has also Mrs. Root) in a crowded church or hall. I have been over to friend Terry's since his sickness, and was pleased to see him outdoors with an umbrella, in a rain. I asked him a lot of questions.

"Mr. Terry, when did you have the first intimation that this trouble was coming on?"

"It was while I was in church."

"Was that church poorly ventilated?"

"It was."

There you have it, friends. This trouble of mine is always worse when I am obliged to remain in a room full of people without any precaution being taken to admit *fresh* air. You may suggest I might get up and go out. Yes, so I could; or, rather, I could a few years ago. Since my deafness has come on, however, I am obliged to sit on a front seat close to the speaker; and I think many of you can understand how awkward it would appear for me to get up and go out, especially if I had just given a hearty "amen" to some good point the pastor made in his sermon. I am glad to note that of late the sermons here and down in Florida are getting to be short and to the point;

and I do not believe it is well or profitable to have two or more important addresses without some sort of recess between them. Terry alludes to the care of our diet; and this opens the way for me to repeat that I have never in my life found any thing so beneficial for such troubles as *grapefruit*. Here in the North it would be rather expensive; but in our Florida home we have always been able to keep a supply at so small an expense as to be scarcely worth mentioning. May God be praised for such a delicious health-giving medicine as grapefruit. Sitting down at a desk reading and answering letters for hours at a time greatly aggravates the trouble, and that is what brought back once more friend Terry's trouble of years ago. I think he is now pretty well past the difficulty, and I hope his prospects are *still* good that he may live to be a hundred years old. But the matter rests considerably on the shoulders of his good friends scattered far and wide; and if you want to see him keep on with his teachings for years to come, let me beg of you to be careful about writing him long letters; and whatever you do, inclose an addressed postal card as I desired in my case. I talked with him about it. He said *my* request was all right; but as much that he has to say to his friends would hardly be appropriate on a postal, he urges an *addressed* stamped envelope.

In conclusion I begin to think that Terry's painful experience during the past few days has really been in one sense providential. It enabled him to form a close acquaintance with one of the best doctors and one of the best trained nurses. I know something about the good woman, because she was employed, years ago, as I understand it, by a member of our family.

One other thing I said to Mr. Terry:

"Friend Terry, are you having outdoor exercise every day of your life, enough to start perspiration?"

"Mr. Root, I have not had the time. In regard to outdoor air, we have it already. It is right here in this room, as I have explained repeatedly."

"Yes, my friend, this air *is* all right. It is delightful. I had not noticed it particularly till just now; but, notwithstanding, I feel quite sure it is not equal to being outdoors and hard at work at something till the sweat starts."

I confess it was a little funny, the idea for just a moment, of *Terry* being a patient and your humble servant the doctor; but I think my good friend agrees with me, even if he did not promise to take "my prescription."

Last, but by no means least, besides the exercise in the open air, I said something like this:

"My good friend, do you ever take a nap during the middle of the day?"

"I do not need to, Mr. Root. I sleep well and soundly all night; and I do not think that getting into the habit of sleeping in the day time would be any advantage."

I do not recall what I said in reply to this matter, but as I deem it of great importance to elderly people I want to go over again what I have been urging repeatedly.

It was about 35 years ago that Dr. Salisbury warned me against sitting down to dinner or any other meal when *tired out*. He said my digestive apparatus could not do its work, and do it well, no matter how well the food was prepared, unless I was well rested up before eating. He declared it would add *ten years* to my life if I would leave my work (then mostly at the desk), go home, and get some sleep. Ten or fifteen minutes' sleep, he said, was better than none at all. Well, it has added certainly ten years to my life, and may be twenty. You remember how vehemently I have urged it, especially for elderly people.

Some of our good hard-working mothers have intimated that it was a huge joke to ask the average *mother* of a family to go and lie down during the very busiest part of the day, just before dinnertime. I think I realize something of what a task it would be; but could it not be accomplished easier than to have the tired mother go off to a sanitarium to be doctored, or possibly off into her eternal resting-place before her time? Well, during the past year or two I have found several times that, after this brief nap before dinner, I was not even yet in first-class trim. When I have the use of all my faculties and enthusiasm besides (as I have just now), I can do a lot of work in a little while, and do it well; but, as I have just said, for the past year or two a good many times a brief nap and a dinner afterward did not quite get me in "fighting trim." My "storage battery," if you will excuse the illustration, was not even yet well charged; and half an hour in the garden, so as to start perspiration, did not bring the vim for my work that I usually have. What was the trouble? I told Mrs. Root that I was forced to the conclusion that I had not had *sleep enough*. I often sit up to read as late as ten o'clock, and am often up by half-past four in the morning.

Now, what I am going to say is for elderly people. The younger ones, full of life and vim, may call it nonsense; but after I went back to my comfortable resting-place and slept an hour, sometimes even more than that, I was ready to swing my hat and

say, "Come on, boys; bring on the work you want done, no matter what kind, and no matter how unpleasant."

The above is simply treating these complicated bodies of ours—yes, bodies and brains—just as you would treat an automobile. Sometimes it bothers even the experts to tell just *what* the matter is. They try one thing and then another, and so on. But if they *persevere* the inanimate machine finally goes off at its full power. Now, be careful not to mistake downright laziness for a break or a weak spot in the machinery. If laziness, hoeing in the garden will generally cure it. Ask God to guide you; and when he answers your prayer, and gives you the needed strength and energy, "get busy" with something that will *help* weak and suffering humanity.

ARE OUR BANKERS AS A RULE PROFESSING CHRISTIANS?

Mr. Root:—I note what you said about bankers attending church. *The Adult Bible-class Monthly*, published by the David C. Cook Pub. Co., says that bankers are the best Sunday-school superintendents, and that very many superintendents or a majority of them, I think, are bankers. That looks as if it were quite fashionable for bankers to undertake church work.

I am glad to say that I am a "chapter-a-day" Bible-reader. I have read from the beginning to the book of Judges. A class of us began last December to read the Bible through.

Andover, Ohio, Aug. 4. CLINTON D. HATTON.

Thank you, my good friend, for correcting me. I am rejoiced to know that some of our bankers are professing Christians. God knows they should be professing Christians, not only on Sunday, but every day in the week; and who can tell how much good they might do if they applied the Christ-like spirit to every business transaction?

SHOES FOR HOT CLIMATES; SPANISH ALPARGATAS, ETC.

I received June 15th GLEANINGS, and I saw on page 18 something about Spanish alpargatas. Here they are generally used by the laborers, and lower classes also, 12 months in the year, as well as children of both sexes, for going to school; but they are not rope-soled, but leather-soled. They have been imported from Caracas for 15 years, and gradually became generally used. As in Venezuela and other South American republics, they are generally used by the lower classes. The price is from 20 up to 48 cts., according to size.

Rope-soled slippers with cloth uppers are used indoors by the well-to-do, and cost from 16 to 20 cts.; but they do not stand the wear and tear of the leather-soled ones. I can not tell you where they are imported from. The real alpargatas, leather-soled, are both imported from Caracas and manufactured locally in ever increasing numbers. They are usually worn without socks or stockings, although some do it so. There is also the rope-soled slipper for the Chinese, round at the end, to be used indoors. Their price is 15 cts. They are straw right around at 15 cts. I am sending you a sample of each for your inspection and use. The rope-soled is 18 cts.; the alpargatas, 40 cts. Alpargatas are imported from Caracas; rope-soled from Germany, and the straw ones from France, as they informed me at the store. C. M. CARMONA.

San Rafael, Trinidad, B. W. I., July 15.

The good friend who writes the above has kindly sent us three pairs of these cheap shoes as samples. The Chinese slippers made all of cloth, for 15 cts., would answer very nicely indoors. Moccasins with rope soles would, no doubt, be all right for wearing outdoors in dry weather. I think they would be especially handy for a tramp through the woods, keep the feet cool, and yet give sufficient protection. The alpargatas at 40 cts. have a good substantial leather sole with cloth uppers. I am glad to say that I find my strength holds out very much better, in hot weather especially, when I wear a shoe made of cloth or of cloth uppers. Abundant ventilation for the feet, and a sort of ventilation that can not be secured with leather uppers, is, I think, exceedingly important. And, by the way, it is important, as I said before, that the whole body be well ventilated, especially in hot weather, or in the hot sun. If you do not keep this in mind, and look out for it, you will suffer more or less unless you are built after a different fashion from what I am.

Many thanks to the good friend who has helped to keep me posted in this matter.

SHOES FROM ALL OVER THE WORLD, AND SOMETHING MORE ABOUT THE CARE OF THE FEET.

Just a word more about the shoes. After having samples sent me from different nations I have found that the women's cloth shoes we find in our shoestores—at least here in the North—are the best for my special wants. I have worn one pair almost constantly since I came back from Florida in the spring. I have not suffered a minute from hot and burning feet as I did when I wore leather shoes, and my corns have not been touched by knife or corn-plaster. They are all going away of their own accord. Of course, these cloth shoes have leather soles. They cost me $1.25 up to $1.40 here at our shoestores. I prefer them to the various kinds of shoes used in hot climates because I can work in the garden with them and not get pebbles and sand in my shoes. Most of the shoes mentioned above permit dirt and gravel to get in between the shoes and stockings, and I am too nervous to get along with even the smallest pebble in my shoe. These cloth shoes tie up close around the ankle; and

unless you get in very deep sand there is no need of pulling them off to clean out your shoes.

One more very important thing: My feet as well as my whole body are thoroughly washed every morning of my life; and I tell you it is worth a whole lot to be entirely emancipated from nerve-racking corns and sore feet. Mrs. Root objects to these women's cloth shoes because it looks effeminate; but in view of the relief I have had I can afford to be "effeminate," and I can afford $1.40 for a neat pair of shoes every three months if need be.

I forgot to mention that the Chinese cloth shoe at 15 cents is a splendid thing to wear around evenings indoors. There is a cloth cushion under the heel, and this fifteen-cent shoe might do a lot of service if worn only indoors.

FAKE WEATHER PROPHETS, ETC.

A few days ago I was asked if science or any thing else could tell us whether the coming winter is going to be severe or mild. I said at once that nobody on the face of the earth could tell any thing about what the coming *winter* will be. It is true that every little while we see something in the papers to the effect that the Weather Bureau says we are going to have a "hard winter," etc. The Weather Bureau has *never* said any thing of the kind, and has for years been contradicting such reports. Just lately the Weather Bureau has been at times able to come pretty close to what the weather *might* be in certain localities for a week ahead—never more than that. Let us consider the matter a little. With the automobiles we have now, and swift methods of travel, anybody with his eyes open can see that a large part of the weather is a *local* matter. A severe thunderstorm comes up, and the automobiles slip on the clay roads so they can not travel. Five miles away it is dry dust. A big wind does a lot of damage in one town, while twenty miles away (and even in the same town) there is little or no disturbance. Now think of the difficulty of putting in print, as the weather-quacks do, what the weather will be for months or even a whole year ahead! The way some unthinking people are misled is like this: A weather prophet predicts a cyclone at such a time, but he does not say where. He finds out that somewhere in the United States there *was* a cyclone at just about that time. He gets a photograph of it (which is not at all difficult nowadays), then places it before the readers of his publication and says, "Read what I said *would* happen. Now, here is what *did* happen." If this forecaster had declared there would be a terrible windstorm on Lake Erie at such a time, or say in Northern Ohio and a part of Michigan, it would be a little more definite.

I have made two clippings from the *Scientific American* for Nov. 1, as follows:

A weather prophet's confidence in himself is always in inverse proportion to his knowledge of the laws of the atmosphere. The intelligent meteorologist is the most modest of forecasters, for he realizes more keenly than any one else the endless complexity of the phenomena with which he has to deal, and the extent to which his conclusions are likely to be vitiated by unknown factors in the problem.

By far the most numerous group of prognosticators ascribe supreme influence in meteorological matters to the moon. Another group stakes its reputation on sun spots. Some years ago the hypothetical planet Vulcan was a favorite with these seers. Others exploit that perennial refuge of ignorance, electricity.

A good deal was said years ago about animals having an instinct that warns them of a coming winter as to whether it will be exceedingly severe or otherwise. I hardly need take space to go over here about the squirrels laying up more nuts when a cold winter is ahead, the chickens putting on more feathers, etc. No doubt these things do happen. The squirrels gather more nuts because there are more to be gathered. The chickens put on a heavier coat of feathers because their owner has furnished them more and better material to make bones and feathers than they ever had before, and so with all these other things. Our United States Weather Bureau has made careful observations, and kept accurate tables for years; and just as soon as any real truth comes to light about the animals, sun spots, or the influence of the moon or planets, our great eager public will quickly be apprised of the fact.

FARMING ON PAPER; THE GOOD TIME COMING.

The auto on the farm arose before the dawn at four. It milked the cows and washed the clothes and finished every chore. Then forth it went into the field just at the break of day. It reaped and thrashed the golden yield and hauled it all away. It plowed the field that afternoon, and when the job was through it hummed a pleasant little tune and churned the butter too, and pumped the water for the stock, and ground a crib of corn, and hauled the baby round the block to still its cries forlorn. Thus ran the busy hours away by many a labor blest, and yet, when fell the twilight gray, that auto had no rest. For while the farmer, peaceful-eyed, read by the tungsten's glow, the patient auto stood outside and ran the dynamo.—*Orchard and Farm*, San Francisco.

The above is tiptop, although it does not tell who bossed that farm auto from daylight till bedtime. As California is putting her good women in the foreground, we presume it is the farmer's wife or daughter who keeps an eye on the efficiency of the dynamo while the farmer reads his paper.

High-pressure Gardening

DASHEENS IN OHIO; HARVESTING THE CROP.

On page 782 of our last issue I mentioned how the dasheens recovered from the frost. Well, they kept on growing—that is, when it was not too cold—until Oct. 20, when we had a cold rain that turned to snow with piercing southwest winds; but the dasheens did not seem to mind it at all. They seemed to be even hardier than tomatoes, lima beans, etc. Finally, on the night of the 21st the weather cleared off and we had not only a frost but a *freeze.** But, thanks to the thermometer and barometer, I knew what was coming, and on the *afternoon* of the 21st I harvested my dasheens. It was a rather cold and muddy job. If grown in sandy soil there would not be much trouble in shaking off the dirt; but in a clay soil, especially during a wet and muddy time, it is quite a task. I did not find out the best way until I had experimented a little. As the central corm has a cluster of tubers all around it, the great mass of hairlike roots holds the soil quite tenaciously. You will need a good stout spade—a curved ditching-spade, for instance, with a long blade. Get this under the whole trunk, then raise it up (if you are strong enough), and let it drop on the hard ground, if it is not too muddy to find such a place. Now take your sharp spade and trim off the roots as close as you can to the tubers without cutting them. Tip the clump over and trim off the bottom in the same way. Now take each tuber by the stalk and snap it off from the central corm. Strike it lightly against your spade, and then most of the dirt will rattle off. Throw them into empty potato-crates, and carry them in, especially if frost threatens.

Now, as it was somewhat of a question how much of these green tops are fit to cook, I trimmed off one lot, picking off the larger leaves, leaving the most of the center leaf stalk. Then I cut off the top clear down to the tuber. I told Mrs. Root that, for an experiment, I had included some pretty large leaf-stalks that might prove to be too old; but, to my happy surprise, the "stew" was delicious—every bit of it. The directions in the bulletin from the Department of Agriculture are to wash the shoots—in fact, the whole plant—in water to which a teaspoonful of sal-soda has been added to every quart. Pour this off, and boil the shoots for ten or fifteen minutes in clear water. Pour off this water also, then stew about five minutes, add butter and milk, and serve as you would oysters, but Ernest and Huber think they resemble more nearly real nice *mushrooms*. The tubers surrounding the central corm can be cooked in the same way, or they may be dried and baked, and the same with the big central corm. But so far we have not found them—that is, the greater part of them—equal to the tubers, say about the size of a hen's egg, that grow around the big ones. I have, I think, demonstrated that the tender shoots above ground are worth the care and cultivation, to say nothing about the tubers; and I am hoping that, when the tubers are thoroughly dry, they will be as rich and luscious as those that grow further south. This remains to be proven, of course. For experiment I left one of the largest plants out in the freeze. The frost killed it down to the ground; but I hardly think it did any damage to the tubers where they were pretty well under the surface.

Later.—To-day is October 25, and we have been having a dasheen stew made of the shoots or tops, as described above, at almost every meal, and I think I shall like them the year round as well as Irish potatoes. We have passed them around the neighborhood, and they all seemed to be pleased with them. The little plants mentioned on page 697 were, at the time of the frost, out of the ground perhaps two inches. They were protected simply with burlap grain-sacks which were taken off as soon as the ground was well thawed out, and seem to be unharmed. They are, in fact, to-day making a new growth since the frost. From this I gather that it is a very simple matter to protect them with grain-sacks or something similar while the plants are quite small.

* Most of our readers are aware that a severe blizzard on the 21st did much damage all over the North; and I notice by the papers that they got a touch of it clear down as far as Northern Florida. This blizzard, accompanied with unusual frost and freezing, as early as Oct. 21, is unusual. Some of the papers stated that no such severe weather had been known on that day for 25 years past.

THE NEW APPLE, THE OLMSTED SWEET.

Friend Root:—I suppose you will not object to my addressing you as "friend," for I am a beekeeper, and you can't deny being a friend to beekeepers. I am also taking the liberty of sending you a parcel-post sample of a variety of apple that I think may be new to you, knowing that you are usually interested in new things. They were originated by my grandfather several years ago, and I do not know whether they have ever been handled by any nursery company or not. They are known hereabouts as "Olmsted Sweets." I am curious to know whether they are new to you, and your opinion as to their possibilities as a marketable apple. They do not make good sauce, but are used considerably for preserves, and are a favorite baking apple with a good many people here. The trees are heavy and regular bearers, and there are a great many of them scatter-

ed about the orchards here. The apples are ready to pick from Sept. 20 to the first week in October.

Monona, Iowa, Oct. 14. D. N. OLMSTED.

The apples came to hand in tolerable order, except that one end of the paper box was broken, and one apple mashed. I tasted this one, but it was not ripe enough to judge of the quality. The apples are very large, beautifully streaked, and very handsome. Except the mashed one they are as hard as rocks, so I infer they are late winter apples. I sent a couple of them to the Horticulturist of our experiment station. Below is his reply:

Dear Mr. Root:—The apples which were sent you by Mr. D. N. Olmsted, and forwarded to me, came this morning. They are quite large, greenish-yellow, nearly covered with red, resembling Wolf River in outward appearance. The flesh is tender, sweet, and of excellent flavor. For eating raw, most people would regard this as very choice. The core is not large, and for baking it must be excellent. For making apple-butter I should think it would be unsurpassed.

For the family orchard it seems to me that we have nothing better of the same season of ripening. I do not recognize the variety as having been described in the fruit-books. I should think that Mr. Root could eat all he wanted of *this* apple, even if it was just before going to bed.

W. J. GREEN, Horticulturist.

Wooster, Ohio, Oct. 25.

It occurs to me that this apple would be a splendid one for the restaurant that advertises baked apples and cream. I have many times paid 15 cents for a big baked apple and a little pitcher of cream, and I felt that I had got my money's worth too. Very likely friend Olmsted will be able to furnish grafts in the spring.

"THOU SHALT LOVE THY NEIGHBOR AS THYSELF."

Brother Root, you have done your neighbor Rood an injustice by taking a vessel for milk that would hold *more* than a pint. You tell in a late issue of GLEANINGS of buying milk from him, "and a very generous pint it is." Now, by all means when you go back to Florida get a pint milk-bottle; and when you buy a pint of milk your neighbor will not be obliged to put in more than you are buying. My wife sells milk, and many times I notice she will give a pint and a half for a pint because the people bring all sorts of vessels to get the milk, which I think is an injustice. If we expect more from a party than we are paying for, we are not giving him a square deal.

I keep a few bees, and from 100 to 300 chickens —a cow, a horse, and I have several acres of land with several hundred fruit-trees planted thereon. I have a general store in a small way, and am operating a coal-mine employing 15 to 40 men. I come in contact with many kinds of men. Nearly all are expecting the best of the bargain, which, you will agree, is very wrong. THOMAS HARRIS.

New Florence, Pa., July 26.

My good brother, I stand corrected; and hereafter when I go over to neighbor Rood's for milk I will carry something that holds just a pint. It is true, however, that neighbors who are on very friendly terms often have a fashion of giving liberal measure. Just of late, to correct the very thing you are talking about, our State of Ohio has passed a law requiring grocers to sell potatoes, fruit, etc., by the pound instead of by the quart or peck. This cuts out the scant measure and the other extreme of heaping up the quart box or half-peck. With eggs we pay for a dozen and get exactly a dozen, and I am sure it will be better all around to be more careful and exact in these things. A good friend who is a market gardener in Florida sells stuff without a box, measure, or scales. He said he knew he was giving me *more* than half a peck of potatoes, but he was too busy to provide himself with scales and measures. When I told him I feared he was not getting pay for his time and trouble he admitted that it did *not* pay. He said he had the stuff, and must get rid of it. I am afraid it is true as you state it, that nearly all the world are "expecting the *best* end of the bargain." Now, may God help us (you and me) to be an exception to this prevailing fashion.

HOECAKE—HOW TO MAKE IT, ETC.

I wish to thank the good friends for the number of recipes for making hoecake, johnnycake, corn bread, corn pone, etc. While many of them are quite elaborate, using eggs, milk, etc., my impression is that the old-fashioned genuine hoecake is quite simple, and I should not wonder if it were just as good, and perhaps more wholesome. From among them I select the following, which I think might be properly called genuine hoecake. You see there is not much fuss nor bother about it.

I noticed in GLEANINGS that you wished a recipe for hoecake. The following is one. Put one quart of white corn meal into a bowl. Add one teaspoonful of salt. Add to it sufficient boiling water to moisten, stirring all the time to make a stiff batter. Moisten the hands in cold water. Take a tablespoonful of the batter in your hand and press it into a thin round cake.

If you have an open fire, have before it an oak plank well heated. Place the cakes against the board in front of the fire. Bake on one side, and turn over and bake on the other until thoroughly done—about 45 minutes. These can also be baked on a griddle on top of the fire. When done, pull apart, butter, and send to the table hot. CHAUNCY D. STAHL.

Little Falls, N. Y., July 11.

APPLES AND MUSHROOMS.

Three judges of the court of appeals, who were to sit in Medina, Ohio, yesterday, found no cases awaiting them. So they hunted apples and mushrooms instead. They returned to Cleveland late in the afternoon, tired out with the tramp they had taken.

The above (from the Cleveland *Plain Dealer*) is pretty fair for Medina Co., but not quite equal to the way they dispense with courts and lawsuits in Kansas.

Poultry Department

THE POULTRY BUSINESS—A COMMON-SENSE BIRDSEYE VIEW FROM THE DEPARTMENT OF AGRICULTURE.

From a farmers' bulletin entitled "*The Agricultural Outlook,*" under the head of "Meat Shortage," I clip the following:

Most of the poultry products of this country are produced on farms under conditions that render the cost of production nominal. Most of the food consists of waste grains, insects, etc., which cost nothing. Most of the labor required is done at times that would not otherwise be profitably employed, or by members of the household who would otherwise be earning nothing. The farm price of poultry products is largely fixed by this nominal cost of production. Under such conditions, it is only the exceptional individual who can make poultry profitable as a major enterprise. There is, therefore, no prospect of increase in products of this class in greater ratio than the increase in population.

Now, a great lot of you, or perhaps I should say a great lot of *us,* need to take note that it is "only the exceptional individual who can make poultry pay, as a major enterprise." If you can get great big prices for your chickens, that may make a difference; but by the "egg contest" now going on, people are beginning to decide that "handsome is that handsome does." If you can breed a strain of great egg-layers, and demonstrate that you have such birds, you can get good prices for them. But it must be the outcome of genuine, hard work. People are tired of being humbugged.

Below is something I have clipped from a periodical called *Profitable Poultry.* For a long time I have been worried in regard to this matter. Read it and see what you think about it.

There is one thing which the writer believes almost impossible to accomplish, and that is, to raise chickens that will win, both in a show room and in an egg-laying contest. Beauty or egg production must be sacrificed to a certain extent, in order to increase the standard of one or the other.

Right here is something more along this line, from the *Industrious Hen.* I clip it from an article in regard to the Sicilian Buttercups:

It is urged that they do not breed true to feather; and fanciers who think more of a feather than they do of an egg will think this is a serious objection. Right at this point is a chance for discussion. Shall we sacrifice laying qualities to fancy? In their native island, Buttercups are kept solely for eggs and meat, with no thought as to feather markings; so that, when rightly interpreted, the criticism that they do not breed true to color becomes really a tribute to their worth.

The above is true. A great many are disappointed to find very few of the Sicilian Buttercups having a dot on a yellow cream-colored background; and I feared the tendency was going to be to pick out these handsome hens for breeders, with little or no attention to their egg-record. I say, give us eggs, first and foremost; and if the hens happen to be handsome, golden-spangled, etc., all right; but do not, I beg of you, make fancy *feathers* first and foremost.

POULTRY AND BEES BOTH, ETC.

A POWDER TO KILL LICE ON POULTRY.

Take 5 lbs. plaster Paris; ½ pint crude carbolic acid; 1½ pint of gasoline. Mix all together thoroughly, screen through fine wire cloth like window-screen; dry in the sun two hours, and store in a tight vessel till used. Be careful of fire.

A MACHINE TO DUST HENS WITHOUT CATCHING THEM; FOR LEGHORN SIZE.

Make a drum of reasonably stiff sheet iron 12 inches in diameter and 4 ft. long, and fit a round head or end in both ends, and cut a hole 6 x 8 inches in each, and fit a slide door of sheet iron over both holes in the ends. Bore a 5-16-inch hole in one of the wooden ends, and put a bolt from the inside to stick out for a crank; then bore a hole through a stick for a handle, and screw the burr on.

For the stand for the drum to revolve upon, make a box without top or bottom with two end boards in each end, 3 in. apart, 2½ ft. long, 21 in. wide, and 10 or 11 in. high; then cut out of the center from the top of the four end boards a half-circle 12½ in. long, and 6 in. deep; then adjust four rollers between each of the two end boards equally spaced. Where the half-circle is cut out, have the rollers stick above the boards so the drum will rest on the rollers. To use, adjust the opening in the drum in the end without the crank to an opening in the hen-house that the hens have been using to go through, and put a screen over the hole in the end where the crank is, so the hens can see through. Put in the insect powder and drive ten hens in and close the slide doors in both ends of the drum, and revolve the drum twice each way; then open the slide doors quick.

I will tell you a little about my bees. They gave me 2000 lbs. of honey, and I have 53 colonies in winter quarters. I winter them in the cellar, but I make two sizes of hives to take Langstroth frames. The small size holds ten frames, and the large one is 2 ft. long and holds 15 or 16 frames. In early spring and late in the fall I put the large size on the small one or around it, and turn the bottom-board over so there will be an air-space on all sides and on top—that is, I use the large size for an outer case, and in warm weather they are single-wall hives.

Moscow, Pa., Jan. 14. GEORGE E. ROZELLE.

The suggestion given above in regard to dusting the hens without catching them, and doing ten at one clip, is quite ingenious, and I think it might be a great saving of labor where vermin get to be very bad; also making a double-walled hive for winter of the same hive that is used as single-walled in the summer time might prove to be quite a convenience. The long hive holding 15 to 16 Langstroth frames is what was called years ago the Long Idea hive; and if I am correct our good friend O. O. Poppleton down in Florida is still making use of these same long hives.

Temperance

MORE WHISKY CONSUMED THAN EVER BEFORE —IS IT TRUE?

We clip the following from the *Union Signal:*

BIG SURPLUS OF WHISKY MAY CAUSE DISTILLERIES TO CLOSE.

The question of whether it may not be wise for the distilleries all over the country to close down during 1914 because of overproduction and large stock on hand in their warehouses is being raised by several distilling firms of Kentucky, according to the Chicago *Tribune.* These men assert that the overproduction was so great during the fiscal years 1911, 1912, and 1913, that a "panic" in the whisky business will result in 1914 if something is not done to prevent it. One Kentucky distiller recently told the correspondent of the *Tribune,* "There was such a nation-wide overproduction of distilled spirits during the fiscal years of 1911, 1912, and 1913, with 1914 starting off with the biggest deluge of all, that the trade of the country is justly alarmed. Propositions are being launched to curtail production, even to the extent of closing down distillery operations. Each of these years in turn has broken all previous production records in the history of the industry. As a result, there remains in the bonded warehouses of the United States. after a complete deduction of all withdrawals, a gigantic net total of 274,648,260 gallons."

All of which is in perfect accord with the explanation that has been given by the temperance people of the increasing consumption by the people of the United States of alcoholic liquors.

I am assured from several sources that the statistics given us, claiming the consumption of whisky is constantly on the increase, emanated from a statistician in the employ of the government, who neglected to tell us that his figures represented the amount of liquors in *bonded warehouses,* and not the amount that had been already *consumed* by our American people.

HALF A MILLION DEPRIVED OF THE MEANS OF A LIVELIHOOD(?)

Percy Andreas says that, if prohibition should prevail, five hundred thousand people would be deprived of a means of livelihood. Well, if prohibition shall prevail, about five hundred *million* people will have a far better way of living. Let that principle rule that gives the best to the most.

In Elijah's time, the messenger had to look seven times before he saw a cloud in the sky, and then it was "no larger than a man's hand," yet Ahab, the politician, had "to get in out of the rain." To-day, here and there on the political horizon, clouds are appearing. May they mean the abundant rain and "reign" of pure water.

In Nehemiah we read: "And I looked, and rose up, and said unto the nobles, and to the rulers. and to the rest of the people: 'Be not ye afraid of them; remember the Lord, who is great and terrible, and fight for your brethren, your sons and your daughters, your wives and your houses.'" Get into the fight.

MINNIE J. ELLET.

It has been said that a prophet is not without honor save in his own country. Well, our good friend who writes the above in the Akron *Beacon* is not exactly a prophet, but she bids fair to become a prophetess; and I think, too, if she keeps on with such assertions as the above she will eventually receive honor in her own neighborhood and community. Amen to Minnie J. Ellet.

THE GREAT WAVE OF CRIME IN BIRMINGHAM, ALABAMA.

We clip the following from the Birmingham *Ledger.* It is from a traveling drummer who seems to be familiar with the circumstances.

Just think of 315 homicides in Jefferson County last year! Is the reason given by your coroner the prime reason for this slaughter? I think not.

I have visited Birmingham for three years without the open saloon, and have seen her for a year with the open saloon spreading its frightful influence over that city until her people are becoming alarmed at the wave of crime and evil sweeping their fair city.

What else can the people of Jefferson County expect as a result of these places of vice and shame? Do they not go hand in hand with crime and murder?

What class of your citizens carry pistols and lurk in the dark to strike down their unsuspecting victims? Certainly it is not your sober, industrious, peaceable, law-abiding citizens.

No, the pistol-toter frequents the saloon and houses of prostitution, and, while inflamed with whisky, is seeking trouble, and is prepared for it, and is a natural product of the saloon. To my mind the open saloon which the voters of Jefferson County have allowed to exist in their midst is responsible for this wave of crime sweeping over your city, and the responsibility is upon the shoulders of the voters of your county.

Should I want to move to Alabama to rear my children I certainly would not want to bring them to a city (much as I admire that city) where life is so cheap and virtue is regarded too loosely. I hope to see a moral wave begin to spread over your fair city which will sweep these festering places of evil and crime out of their midst, and then with the cause removed you can see some of the effects removed, and your city and county officials will not have to explain to the people the reasons for such conditions as now exist.

A DRUMMER.

THE TEMPERANCE WORK IN NEW ORLEANS.

When our great city dailies begin to lend their influence to the cause of temperance, something is going to happen. The clipping below from the New Orleans *Item,* taken from Congressman Hobson's speeches, is only a small part of half a dozen columns of similar matter:

Meat with strychnine placed along the streets will kill the dogs. No terrible examples will have any effect. The fact of the poisoned meat being placed on the street is the cause of the destruction. When this seductive poison, alcohol, is placed along the streets in saloons, men will take it. The fact of its being on the street is the real cause of its being taken. Irrespective of the question of the responsibility for its existence, the saloon is fundamentally an assassin.

When the true nature of alcohol becomes better understood, no community will longer tolerate these assassins who take their stand on the corners and

up and down the squares of our cities. In the premises the State has not only the right, but the bounden duty, to put an end to this wholesale assassination.

TREASURES ON EARTH AND TREASURES IN HEAVEN.

The clipping below was mailed us by A. F. Cowles, Swengel, Pa.:

Who is the God of this age?—II. Cor. 4:5.

In 1907 there was paid in the United States for foreign missions, $7,500,000; for drugs, $27,500,000; for jewelry, $60,500,000; for confectionery, $128,000,000; for tobacco, $949,500,000; for liquors, $1,744,447,672.

How would it look to reverse these figures?

What do you think of the above, dear friends? and where are your own investments being made just now? Are they transient investments for this world only, or are they for time and eternity? Each one of us will have to answer for himself.

NO LIQUOR SOLD ON DINING-CARS IN THE STATE OF OHIO.

See the following, which we clip from the *Union Signal:*

NO MOVING SALOONS IN OHIO.

It is reported by the press that Attorney-General Hogan, of Ohio, has found that the constitution forbids a moving saloon, and has instructed the State Liquor Commission to issue no license to railroad companies to sell drinks on trains passing through Ohio.

WATER-DRINKING AN EXAGGERATED VIRTUE(?).

As might be expected, as the liquor men are crowded closer and closer into a corner they make desperate efforts to escape. The latest is that water-drinking is the cause of appendicitis. This discovery(?) was made in France; and the inference is that, if you drink wine instead of water, you will not have appendicitis. This piece of news comes from the Providence *Bulletin.* The concluding sentence is:

From these data the public is drawing the conclusion that total abstinence is an exaggerated virtue, even from a scientific point of view.

TOBACCO, CIGARETTES, ETC., AND THE HIGH COST OF LIVING.

An old friend just met me, and put out his hand, and said, "Mr. Root, it is just a year now since I used tobacco in any shape or form." Come to think of it, another friend said the same thing only a few days before, and these two men both agreed that they were feeling much better, mentally, physically, and morally. One of them spoke of his wife, and asked me how much it would help this trouble about the high cost of living if a few more would do as he had done. He said it would help a big lot. He mentioned the names of friends of his who sometimes smoke toward a dozen high-priced cigars in a day. Do you suggest they can afford it? In one way perhaps they can. But how about the example it sets? How about the women and children who actually go hungry because the head of the home uses tobacco? Somebody away off sent me the newspaper clipping below. He did not give the name of the paper from which it was clipped, but it contains a splendid sentiment notwithstanding.

During the fiscal year 1912-13, 14,277,000,000 cigarettes and 7,700,000,000 cigars were burned by the American people. The Goddess of Liberty may have a fine statue, but there is more incense burned on the altar of My Lady Nicotine.

Next to the great Father above, we American people profess to be loyal to the Goddess of Liberty; but is there not a big truth right there? Are there not more of us who are really loyal to the Goddess of Nicotine than to the Goddess of Liberty? Very few fathers would be pleased to see their boys commencing to use tobacco. Am I not right about it? When we come to take the matter fairly and squarely and honestly into consideration, are there not still other higher and holier reasons for avoiding these things which certainly do us no good? How often I hear men say (and all kinds of men too), when they are discussing a man's value to the world and to the nation, after speaking of his other good qualities, "He does not swear, does not use strong drink," and finally they wind up by saying, "Why, he does not even use *tobacco!*" Is it not the general inference that the man who from principle has given up the use of tobacco has also given up almost every thing else that is bad and wrong, and ungentlemanly and ungodly? May God help us as a nation of people, not only to cut off the use of expensive things, but things that are positively harmful.

A CIGARETTE FIEND KILLS SEVEN PEOPLE; GAS-WELL KILLS SEVEN; EXPLODES WHEN CIGARETTE IS THROWN NEAR PIPE OUTLET.

Tulsa, Okla., July 24.—Seven men were killed and several others were probably fatally injured late to-day, when a gas-well exploded and caught fire at Lost City, about five miles west of Tulsa.

The explosion was caused by a cigarette stub dropped by a bystander, according to Stephen Snyder, son of a farmer living near the well, who was assisting the drillers, and was first of the injured brought to Tulsa.

Snyder is frightfully burned, and is not expected to live.

The above, clipped from the Cleveland *Plain Dealer,* is another illustration of the fact that the man or boy who smokes cigarettes is too stupid—at least oftentimes he is—to be permitted to run at large.